

**REPORT
OF THE
COMPLIANCE INSPECTION
AT
DYNO NOBEL, INCORPORATED
LOUISIANA, MISSOURI
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT NUMBER: MO0105783
MARCH 9–12, 2015
BY THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VII
Environmental Services Division**

INTRODUCTION

At the request of the Water, Wetlands, and Pesticides Division—Water Enforcement Branch—I performed National Pollutant Discharge Elimination System (NPDES) compliance sampling (CSI) and industrial storm water (SWI) inspections at Dyno Nobel, Incorporated (also referred to in this report as the “facility”) in Louisiana, Missouri, on March 9–12, 2015. The CSI and SWI were conducted under the authority of Section 308(a) of the Clean Water Act, as amended. This narrative report and attachments present the inspection findings. The attached compact disc (CD) (Attachment 1) includes a zipped keyhole markup language (KML) file and copy of the photographs that were collected as part of the inspection process. The KML file can be loaded into a compatible electronic interactive mapping system to identify and obtain the general location and a description of each photograph (photo) referenced in the report narrative.

PARTICIPANTS

Dyno Nobel, Incorporated:

Sam Correnti, Plant Manager
Brian Gregory, Environmental Coordinator
Sherrie Noel, Lab Specialist
Jeff Holdmeyer, Acid B Operator

United States Environmental Protection Agency (EPA):

David Pratt, Life Scientist

FACILITY DESCRIPTION

The following facility description was provided by the Dyno Nobel site representatives (Attachment 2) during the inspection. The aforementioned participants were key personnel interviewed during the inspection.

Dyno Nobel is located at 11025 Highway D in Louisiana, Missouri (Attachment 3). The facility has approximately 80 employees working one administrative shift, one laboratory shift, and two 12 hour production shifts seven days a week. The facility's NPDES permit (Attachment 4) covers storm water runoff and certain non-storm water discharges from the site. The permit identifies three primary outfalls that include outfalls 001 (photo 12), 002, and 003 (photo 17). There is also an internal monitoring point identified as outfall 008 that drains directly to outfall 001. The facility specializes in manufacturing nitric acid, ammonium nitrate solution, and prilled ammonium nitrate (Attachment 5). The facility is rated to produce 1,000 tons of nitric acid per day; however, production rates vary each month and are typically not at the maximum rate (Attachment 6). Production of ammonium nitrate is directly tied to the amount of nitric acid produced. A boiler powered with natural gas is used to generate and provide steam for power and heat to many of the processes. The facility also supplies steam to the neighboring Calumet industry. Water used for domestic purposes is supplied by the City of Louisiana. Domestic sewage generated by the facility is either sent to the onsite wastewater treatment system, or disposed subsurface with a number of onsite septic tank and leach field systems.

The manufacturing plant was originally built in 1941 for production of anhydrous ammonia with funding provided by the United States Government (Attachment 7). The plant was designed, built, and operated by Hercules Powder Company. Hercules took full ownership of the site in the 1960s and added the nitric acid and ammonium nitrate manufacturing processes. During 1985 IRECO acquired a portion of the facility to be operated independently from Hercules. IRECO's name was changed in 1993 to Dyno Nobel. At some point the portion of the facility not owned by Dyno Nobel was referred to as Ashland; however, it was not clear when the name change took effect. Ashland ceased operation during May 2011. The land owned by Ashland was dormant until sometime in 2012 when Calumet took over operation; however, the property is still owned by Ashland/Hercules. The Dyno Nobel facility occupies approximately 139 acres of land and roughly 39 of those acres are utilized for industrial activities. Mr. Gregory provided a description of the industrial processes and a tour of the facility grounds. A tour of the water filtration plant was provided by Messrs. Gregory and Holdmeyer. A tour of the wastewater treatment system was provided by Mr. Holdmeyer. The industrial processes are essentially divided into four primary categories that include the acid oxidation process (AOP), nitric acid concentration (NAC) system, ammonium nitrate liquor (NAL) production, and a portion of NAL which is used to produce prilled ammonium nitrate through a separate manufacturing process.

Ammonia gas is received at the facility via pipeline. The facility also has backup tanks (photo 33) available to store ammonia in case the pipeline goes down (two tanks are currently in use). The ammonia is transferred to one of four preheat tanks to enhance the oxidation process. There are two dedicated boilers available to reheat steam used in the preheat tanks. The preheated ammonia is then transferred to a vessel to be mixed with air and pressurized. The pressurized mixture is sent through a mess box and oxidized to produce 56 percent (%) nitric acid solution (photo 36). The off gases generated from this process are discharged through a stack. Some of the nitric acid generated is transferred to a neutralizer vessel to make NAL, and some is sent to an absorber unit (photo 39) to be finished and sold as a nitric acid solution. Spent process water from the oxidation process is transferred to one of three feed tanks that feed an electro dialysis reversal (EDR) system (photo 29). The EDR essentially removes nitrates from the waste stream and treats approximately 45 gallons of process water

per minute over a 16 hour timeframe each day. The EDR produces a concentrate and final treated product. The concentrate is transferred to a separate process to make prilled ammonium nitrate. The final treated process water is discharged to a holding tank and then through outfall 008.

The portion of nitric acid to be finished is transferred to an absorber unit for further processing. The 56% nitric acid is then transferred to one of two concentrator units to make concentrations of 67% or 98% nitric acid (photo 41). The smaller concentrator uses steam to generate 67% concentration while the larger unit uses salt with magnesium carbonate to produce a higher concentration. The 98% solution is referred to as ultra-clear and pure white nitric acid. Noncontact cooling water cools the absorber unit via a dedicated cooling tower (photo 43). The noncontact cooling water is treated with sulfuric acid and other Nalco chemicals. Spent cooling water is discharged to a lined lagoon system as needed. Most of the acid storage tanks vent through a scrubber system prior to atmospheric discharge (photo 40); however, the tank used to store bleached acid is not vented through a scrubber unit. The final nitric acid product is shipped offsite via railcar or semi-tanker trucks (photos 45 and 46).

NAL is produced with a neutralizer vessel using 56% nitric acid solution and ammonia. A portion of the NAL product is transported offsite via railcar or semi-tanker trucks as a final product (photos 34 and 35). The portion not shipped offsite and the concentrate generated by the EDR unit are sprayed into the top of a large tower (photos 67 and 69) using five to six shower heads to make prilled ammonium nitrate. Aluminum sulfate is added to the NAL at the top of the tower. The NAL and EDR concentrate fall down the tower while air is pushed upwards from the bottom. As the solution falls through the tower, it dries to form prilled ammonium nitrate. The prill is captured into a hopper at the bottom of the tower and transferred into one of four roll driers that are heated with steam. The dried prill is transferred to a shaker machine and then conveyed to another unit to receive a Galoryl coating. The finished product is conveyed to a large concrete dome for temporary storage.

A large dehumidifying system removes moisture from within the concrete storage dome. The condensate discharge generated by the dehumidifier is directed to a lined lagoon cell. A conveyor system transfers the stored product from the concrete dome to a hopper system to be loaded into railcars or tanker trucks. Prill that does not meet specification is separated within the concrete dome to be sold at a lower price. The loading area for the off specification product is located just outside of the concrete storage dome (photo 65). Floor drains in the production tower and railcar and tanker truck loading areas (photo 59) all lead to an onsite collection tank (referred to by the facility as the secondary lagoon) (photo 57). The tank contents are sold to farmers as a weak liquid fertilizer product (photo 58). The facility also has a rework tank (photo 61) to melt ammonium nitrate prill that cannot be conveyed as a final product. The melted product is sent back through the process to be reformed into prill.

Water used in production is pulled from the Mississippi River, via three pumps, and treated in an onsite water filtration plant (Attachment 8). The facility also has a backup pump station to pull water from Buffalo Creek if needed. The water first enters through one of two settling basins where polymers are added to enhance the settling of solids (photo 74). The settling basins are approximately 25 feet deep, are baffled, and equipped with paddle wheels to keep the water in circulation. A bleach solution is also added to the settling basins to control algae. The water proceeds to one of two sand filtration tanks (photo 75). The original sand filters were abandoned in place. The operational sand filters are backwashed to a large holding pond (photos 18–20) with clear well water approximately every 48 hours. The holding pond discharges to Buffalo Creek as outfall 003. Ferric chloride is also added to the system and backwashed to the holding pond (outfall 003 does not include chloride monitoring). Buffalo Creek is classified as a perennial stream per United States Geological Survey (USGS) topographic maps. The filtered water is transferred to a clear well that holds more than 100,000 gallons of treated water. A

corrosion inhibitor is added to the clear well to help protect production equipment from corroding. The clear well water is then distributed for use in production (Attachment 9).

The facility also produces soft water for use in the boiler system. Water is pumped from the Mississippi River to a Graver unit (photo 77) where bleach (photo 81), lime (photo 79), and ferric sulfate are added. The water then drains into a sediment basin and then to three coal filtration tanks operated in series (photo 78). The filtration tanks are backwashed to the same holding pond approximately every 48 hours. The final coal filter drains to a clear well. The clear well water is pumped to the water softening units. The facility has five water softeners available; however, only two of the softeners are in use. A brine solution is used to soften the water (photo 80). Softened water is transferred to a temporary storage tank to be used to produce steam for production.

The wastewater treatment system receives domestic sewage from approximately 69 people to include the maintenance area workers, administrative building, and the Calumet industry. All the other toilets and some of the sinks within the remaining areas of the facility are connected to onsite septic tanks and leach fields. Contents from the septic tanks are pumped, as needed, and disposed into the Louisiana municipal wastewater treatment works. Some of the hand wash sinks (photo 30) are reported to drain to the facility's lined lagoon cell. Wastewater enters the treatment system into a wet well. The wastewater is pumped, via two variable frequency drive pumps, to an Imhoff tank to enhance the settling of solids (photo 1). Solids captured by the tank are removed approximately once per year and disposed into the Louisiana municipal wastewater treatment works. The facility has a sludge drying bed available (photo 2), but it is not used. The wastewater travels over a weir where instantaneous flow measurements are collected (photo 3). The wastewater then travels into a temporary holding tank where ozone is injected (photo 5). The tank contents are used to feed and cool the ozone generator (photo 4). The wastewater is also discharged from the same holding tank to a single channel ultraviolet (UV) disinfection system (photo 5). The UV system is bypassed during the non-recreational season. The UV bulbs are cleaned based on UV intensity meter readings. The wastewater treatment system discharges through outfall 002 to the Mississippi River (photo 6). The Mississippi River is classified as a perennial stream per USGS topographic maps.

A majority of the process wastewater and storm water runoff from the facility grounds are captured and conveyed to one of two lift stations. Most of the surface drainage travels east to one of the lift stations. The lift station located near the northeast section of the production area is labeled as number three (#3) lift station (photo 7). The lift station located near the southeast section of the production area is labeled as the Buffalo Creek lift station (photo 15). Both lift stations discharge into a synthetically lined single cell lagoon (photos 21 and 22). The facility also has an internal monitoring point labeled as outfall 008 (photo 27) that receives process water consisting of cooling tower reject, boiler blowdown, a small percentage of NAC process water, and the discharge from the lined lagoon cell.

Process water from NAC drains into a pit that is equipped with a pump station (photo 28). Approximately 30% of the process water is pumped through a hydrogen ion activity (pH) and conductivity check. The NAC process water that passes the pH and conductivity check is discharged to outfall 008. If the pH or conductivity fail criteria, the process water is sent back to the pit to be transferred to the lined lagoon cell. The remaining 70% of process water is sent directly to the lined lagoon cell. Wastewater from the lined lagoon cell is pumped to outfall 008 which proceeds to the outfall 001 monitoring point. The outfall 001 effluent structure is equipped with an ISCO 4230 Bubbler flow meter and rectangular weir where flow measurements are collected. Outfall 001 drains directly to the Mississippi River. Calumet also discharges process wastewater and storm water to outfall 001 as a combined discharge with Dyno Nobel; however, discharges from Calumet were not occurring during the

inspection. Some areas of storm water runoff from the facility are not captured by the lift stations or monitored by one of the permitted discharge points (discussed later).

SAMPLING and INSPECTION PROCEDURES

I arrived unannounced at the facility at approximately 11:30 a.m. on Monday, March 9, 2015. An introduction was made to Mr. Gregory, I presented my EPA credentials, and explained the purpose and procedures of the inspection. I also viewed a site safety video prior to accessing the site. The inspection procedures that were discussed included sampling the permitted outfall locations, a facility walk-through inspection, a review of the facility's NPDES permit, and a check of the facility's self-monitoring records. I set up an ISCO model 3710 composite sampler at outfalls 001 (identification number CI-72) and 002 (identification number CI-75). The sampler preparations consisted of flushing the Tygon intake tubing and rinsing the Nalgene collection bottles with effluent, adjusting the samplers to collect an appropriate aliquot quantity every 30 minutes over a 24 hour timeframe, and packing ice around each collection bottle.

Sample collection began on March 9th and ended on March 12th. The second day of composite sampling at outfall 001 consisted of 23.5 hours due to the time of sample collection and inspection process. The other composite sample collection periods consisted of 24 hours of compositing. I measured pH, temperature, and dissolved oxygen (DO) each day at each outfall location and collected grab samples in conjunction with the composite samples. Grab samples were also collected at outfall 003 each sampling day. For each day of sample collection, the samples were packed in an ice chest with ice and shipped the first two days, via a commercial carrier, to the EPA Region VII (R7) laboratory in Kansas City, Kansas, for analysis. The last set of samples were delivered directly to the laboratory. The procedures used to inspect the facility; calibrate the meters; and collect, preserve, document, and ship the samples were in accordance with the following EPA R7 standard operating procedures (SOP):

NPDES Compliance Sampling Inspections
Field Equipment Calibration and Maintenance
Wastewater Sample Collection
Shipping Ambient and NPDES Water Samples to the EPA R7 Laboratory
Field Chain of Custody for Environmental Samples
Identification, Documentation, and Tracking of Samples
Sample Container Selection, Preservation, and Holding Times

The attached *Water Compliance Inspection Report* (Attachment 10) and *NPDES Industrial Storm Water Worksheet* (Attachment 11) provide additional information about the inspection. A *United States Environmental Protection Agency Confidentiality Notice* form (Attachment 12) was signed by the facility claiming no confidentiality. A *Region VII Multimedia Screening Checklist* (Attachment 13) and *Receipt for Documents and Samples* form (Attachment 14) were also completed. As part of a March 12, 2015, exit briefing with facility personnel, a *Notice of Potential National Pollutant Discharge Elimination System (NPDES) PERMIT VIOLATIONS* (NOPV) (Attachment 15) was issued. A written response to the NOPV, dated March 25, 2015, was received from the facility (Attachment 16).

FINDINGS and OBSERVATIONS

The following observations, unless noted otherwise, were discussed with the facility representatives during the inspection.

1. NOPV number one was cited due to past numerical permit limit exceedances. The NPDES permit requires the facility to monitor for specific parameters at each outfall location and places numerical limitations on some of those parameters. The permit also requires the facility to submit noncompliance notifications to the Missouri Department of Natural Resources (MDNR) within five days of becoming aware of daily maximum exceedances. I collected a copy of and reviewed the available February 2012–March 2015 discharge monitoring reports (DMRs). I also collected a copy of and reviewed the last six months of internal and contract laboratory reports (a copy of the DMRs and lab reports has been submitted directly to the EPA files).

The following table documents the months when a parameter exceeded numerical permit limitations. The facility is allowed an excursion of pH outside the permitted range for no more than 60 minutes at a time. The pH exceedances reported below are more than the allowable time for an exceedance to occur. The units are reported in standard units (SU), milligrams per liter (mg/l), degrees Fahrenheit (°F), or number per 100 milliliters (#/100 ml). The results are also reported as the maximum results unless noted otherwise:

| DYNO NOBEL | | | | | |
|--------------------|---|-----------|----------------|--|------|
| Parameter | Permit Limits | Outfall # | Month/Year | Reported Results | |
| pH | 6.5–9.0 SU (allowed range) | 001 | June 2012 | 6.3 SU for 63 minutes | |
| | | | October 2012 | 5.8 SU for 144 minutes | |
| | | | January 2013 | 10.2 SU for 84 minutes | |
| | | | July 2013 | 9.2 SU for 72 minutes | |
| Ammonia as N | 148 lbs/day (monthly average) March 2, 2012 through November 4, 2014 122 lbs/day (monthly average) November 5, 2014 to Present | 001 | May 2012 | 9.5 SU for 107 minutes | |
| | | | December 2012 | 174 lbs/day (average) | |
| | | | April 2013 | 166 lbs/day (average) | |
| | | | November 2014 | 157 lbs/day (average) | |
| | | | December 2014 | 157 lbs/day (average) | |
| | | | January 2015 | 158 lbs/day (average) | |
| Nitrate as N | 341 lbs/day (monthly average) 893 lbs/day (daily maximum) | 001 | February 2015 | 216 lbs/day (average) | |
| | | | September 2013 | 182 lbs/day (average) | |
| | | | October 2014 | 349 lbs/day (average) 1,123 lbs/day | |
| Temperature | T _{cap} 57°F (average/maximum) | 001 | February 2015 | 343 lbs/day (average) | |
| | | | March 2012 | 358 lbs/day (average) | |
| | | | | T _{cap} 60.8°F (average) | |
| | | | | 60°F | 64°F |
| | | | | 61°F | 63°F |
| | | | | 63°F | 64°F |
| | | | | 63°F | 64°F |
| | | | | 63°F | 62°F |
| | | | | 63°F | 62°F |
| | | | | 62°F | |

| DYNOL NOBEL continued | | | | |
|-------------------------|--|-----------|----------------|---|
| Parameter | Permit Limits | Outfall # | Month/Year | Reported Results |
| Temperature | T _{max} 60°F (average/maximum) | 001 | March 2012 | T _{max} 61°F (average) |
| | | | | 61°F 63°F |
| | | | | 63°F 64°F |
| | | | | 63°F 64°F |
| | | | | 63°F 62°F |
| | | | | 64°F 62°F |
| <i>Escherichia coli</i> | 126/100 ml (monthly average) | 002 | June 2014 | 246/100 ml (average) 2,610/100 ml 14,100/100 ml |
| | | | September 2014 | 5,750/100 ml |
| | 630/100 ml (daily maximum) | | | |

The MDNR issued a *Letter of Warning* (LOW) on December 10, 2014, for some of the aforementioned exceedances (Attachment 17). The facility did not include the October–December 2013 DMRs as part of the documentation received during the inspection. A response submitted to the MDNR indicates the last quarter of 2013 was a transitional period for when Dyno Nobel took over sampling and reporting of the discharges for outfalls 002 and 003. This explains, in part, why the 2012 and 2013 monitoring records for outfalls 002 and 003 were not part of the documentation received from the facility. Mr. Holdmeyer indicated operation of the water treatment plant was taken over in late 2012. He also indicated the facility took over operation of the wastewater treatment system around late 2012 to early 2013. Written correspondence included with the 2012 DMRs indicated the monitoring and analyses for outfalls 002 and 003 were performed by the Ashland water treatment plant operators. The correspondence also indicated the monitoring results for those outfalls were submitted separately by Ashland to the MDNR. In addition, the whole effluent toxicity test for May 2013 was also not provided. The toxicity tests received from the facility all had passing test results.

There were a couple of instances when pH was reported outside the allowable limits for outfall 001, but the time of excursion and cause was not documented on the report forms. This occurred during September 2013 and August 2014 with results of 6.4 and 6.1 SUs. Also, pH monitoring was not performed on outfall 001 during August 2013 for 185 minutes due to a plant wide power outage. Most of the pH exceedances noted in the above table were reported by the facility to be caused by issues with the EDR unit. The July 2013 pH exceedance was reported to be caused by low flow exiting the lined lagoon cell.

The December 2012 ammonia exceedance was reported to be caused by rerouting of process lines due to construction activities on some of the production equipment. The April 2013 ammonia exceedance was reported to be caused by excessive flooding at the outfall structure. Approximately one week of monitoring was not performed during this time period due to flooding conditions. The September 2013 nitrate exceedances were reported to be caused by the discharge of nonstandard process water with high nitrates through outfall 008. During this time the pH monitoring system at outfall 008 did not shut down flow to outfall 001 because pH was within permit limitations. The facility responded to this incident of high nitrates by programming the conductivity meter to also trigger shutoff to outfall 001 in the event conductivity was outside of the programmed range.

The June 2014 *Escherichia coli* (*E. coli*) exceedances were reported by the facility to be caused by contaminated sampling equipment. The September 2014 *E. coli* exceedance was reported to be caused by flooding at the treatment system. The sample hold time was also exceeded on three of the *E. coli* samples during September 2014. The facility also reported a bypass of domestic sewage to the MDNR during September 2014 (Attachment 18) from the primary containment unit of the wastewater treatment system due to the flooding event. The estimated amount lost was 200–300 gallons that did not leave the facility grounds. In addition to the *E. coli* exceedances, the facility is calculating and reporting the arithmetic average for *E. coli* instead of the required geometric mean. I calculated and reported the geometric mean for June 2014 in the above table. This value is below what the facility reported on the DMR, but still above the monthly average permit limitations.

The October 2014 nitrate exceedance was reported to be caused by internal leakage of process equipment. There was also a weekly O&G result missing from the March 2013 DMR for outfall 001 and a TSS value missing from the September 2014 DMR for outfall 002. The missing TSS value was reported to the MDNR to be an oversight. The facility, therefore, submitted the TSS lab sheet in response to an MDNR inquiry. Also, there were at least three BOD samples that exceeded the allowable hold time prior to analysis. This occurred during November and December 2014 and January 2015. The facility records indicate the contract carrier did not deliver the BOD samples to the contract laboratory within an appropriate time. In addition, a contract laboratory report was not provided for the last weekly December 2014 BOD sample, but a result was reported on the DMR for that month.

Mr. Gregory indicated the ammonia exceedances subsequent to October 2014 were believed to be due to a decrease in permit limitations on ammonia. The values reported, however, also exceed the previous permit limitation for ammonia. Mr. Gregory indicated a task force has been created to investigate possible changes to achieve compliance with the new ammonia permit limitation. The facility's written notifications on the daily maximum exceedances do not appear to have been reported to the MDNR within the required timeframe established by the NPDES permit. The notifications appear to have been included with the DMRs instead. The facility's written response to the NOPV indicates the current ammonia exceedances are thought to be caused by a lack of nitrification in the lined lagoon cell during the winter months. The facility is in the process of examining technologies capable of reducing ammonia levels in the lagoon to meet the updated permit limitations for ammonia.

2. NOPV number two was cited because the facility was not conducting proper test procedures or implementing appropriate quality controls on some of the internal laboratory analyses. The NPDES permit requires the facility to perform analytical testing procedures in accordance with the Missouri Clean Water Commission effluent regulations 10 Code of State Regulations 20-7015 [sic]. The facility identified *Standard Methods for the Examination of Water and Wastewater* and EPA test procedures as the analytical tools for conducting internal laboratory analyses. The facility did not, however, have a current version of the referenced procedures onsite. The facility instead had SOPs for reference (a copy of the SOPs has been submitted directly to the EPA files). The following are observations and potential issues that were noted during review of the facility's internal laboratory procedures:
 - i. A thermometer certified by the National Institute of Standards and Technology is not used to periodically conduct precision checks against other thermometers used in the lab where wastewater samples are stored and analyzed. Examples of some of these temperature requirements are documented later in this section. Ms. Noel indicated the temperature probe used

to measure temperature at outfall 001 is checked against a temperature probe calibrated by facility staff. The calibrated probe has not been third party certified.

- ii. The pH values are obtained for outfalls 002 and 003 using a Mettler Toledo SevenEasy pH meter. The blue buffer used to calibrate the meter expired February 2015. Ms. Noel indicated the buffers are normally replaced after expiration. She also indicated the probe used to measure pH continuously at outfall 001 is checked by an onsite electrician once per week. The instrument checks performed by the electrician are kept separate and were not reviewed during the inspection.
- iii. Flow measurements at outfall 001 are obtained using an ISCO 4230 Bubbler flow sensor and rectangular weir. Ms. Noel indicated the flow sensor has not been calibrated or checked for accuracy. The facility has numerical mass permit limitations that require accurate flow readings to be obtained at outfall 001.
- iv. The TSS samples are filtered using a Gooch crucible and small diameter fiber filter disk. The sample is first transferred into a graduated cylinder and poured in small amounts over the filtering apparatus until sample will no longer filter. Ms. Noel indicated this process can take more than 10 minutes. This procedure also appears to allow settling of solids in the graduated cylinder. The approved test procedure requires the sample to be stirred with a magnetic stirrer. A measured volume should then be pipetted onto the seated fiber filter while the sample is being stirred. In addition, the facility is, at times, unable to filter enough sample volume to generate a minimum dried residue of 2.5 milligrams (mg). The facility has not increased the fiber filter disk diameter to obtain better filtration as required by the approved test procedure. Duplicate tests are also not conducted to agree within five percent of their average weight. Ms. Noel indicated the oven temperature is normally maintained at 104 degrees Celsius (°C) during the drying period. The oven temperature was set at 112°C during the inspection.
- v. The nitrogen ammonia analysis was described to be performed using the titrimetric test procedure with preliminary distillation. The facility's SOP, however, references a different test procedure.
- vi. The facility is using ion chromatography as the chosen test procedure for determining nitrate and sulfate concentrations. Ms. Noel indicated a weekly known standard check is performed with the nitrate and sulfate analysis. She indicated blanks or matrix spikes were not part of the test procedure. The chosen test procedure requires method blanks, laboratory-fortified blanks, laboratory-fortified matrixes, and laboratory-fortified matrix duplicates to be performed as part of the quality control procedures when analyzing nitrate and sulfate. Also, based on the data provided, I was not able to verify that correct calculations were performed to generate the final results.
- vii. The calculation used to determine the final O&G results includes correction with the laboratory control blank results. The facility's chosen test procedure does not allow for correction of the final results with the laboratory blank results. The test procedure instead requires the facility to halt sample analysis when the blank values exceed the minimum detection limit. The source of contamination must be identified until the blank sample shows no evidence of contamination. The facility typically documents O&G values below the minimum detection limit prior to laboratory blank correction. Ms. Noel indicated a standard solution check is performed with each batch of samples. The standard solution is made onsite at a concentration of 20 mg/l using

vacuum oil. The vacuum oil does not appear to be an approved solution for use in the O&G quality control procedures. The results on the standard solution check also regularly fall below the actual concentration. When this occurs, the data generated from sample analysis is not flagged with possible error.

The aforementioned modifications to the approved test procedures have not been properly documented in a method write-up or addendum that describes the modifications along with demonstration of equivalent performance. The facility's written response to the NOPV indicates the SOPs will be updated to reflect the current analytical requirements.

3. NOPV number three was cited due to improper documentation on sample collection procedures. The NPDES permit requires each measurement or sample to include the date and time of sample collection and the individual who performed the sampling or measurements. The facility's internal records for grab sample collection do not include a date, time, or person who collected the samples. The internal records list the dates composite sampling was performed, but do not include the compositing start and stop times. Ms. Noel indicated grab samples are normally collected during the start of the compositing period. In addition, the data generated from the composite samples are recorded on the DMRs as the day sampling was started. This reporting method provides an inaccurate representation of when samples were actually collected. The facility's written response to the NOPV indicates recordkeeping has been updated to reflect the date and time of sample collection.
4. NOPV number four was cited because the facility was not documenting corrective actions on the storm water inspection report forms. The NPDES permit requires the facility to develop and implement a storm water pollution prevention plan (SWPPP) to manage storm water runoff from the facility grounds (a copy of the SWPPP has been submitted directly to the EPA files). The permit also requires a site self-inspection and brief written report to be performed at least once per month on the SWPPP requirements. The permit further requires any needed corrective actions to be documented within 14 days and to be included with the storm water inspection reports (a copy of the self-inspection reports has been submitted directly to the EPA files). I collected a copy of and later reviewed the April 2012 through February 2015 storm water self-inspection reports. The following provides a summary of the self-inspection reports and potential issues observed by the facility (these individual items were not discussed with facility personnel during the inspection):
 - The self-inspection reports for April–September and December 2012; January, February, April, July, and September 2013; and January and February 2015 documented uncovered trash dumpsters around the facility. The facility's SWPPP does not, however, clearly address the need for trash dumpsters to be covered. The self-inspection reports appear to indicate the uncovered dumpsters are not a concern for scattered debris or a potential pollution source to storm water runoff.
 - The April and May 2012, August 2013, January and July–December 2014, and January and February 2015 self-inspection reports documented soil erosion around the facility. Some of the items identified in the July–December 2014 inspection reports appear to be ongoing issues.
 - The September 2012 self-inspection report documented an investigation of a storage tank foundation was underway. It is not entirely clear if there were issues with the foundation or if corrective actions were ever implemented.
 - The December 2012 self-inspection report documented spillage of prilled ammonium nitrate around a lower load-out conveyor.

- The July 2013 and October and December 2014 self-inspection reports documented repaired or damaged transformers and staining that occurred within a secondary containment of another transformer. This also appears to be documented as a continued issue in the February 2015 self-inspection report.
- The November 2013 self-inspection report documented the occurrence of bulk storage spillage without any additional information on cleanup and containment.
- The April, May, and November 2014 self-inspection reports documented spillage of prilled ammonium nitrate around the garage area.
- The June 2014 self-inspection report documented spillage of prilled ammonium nitrate from loading a truck outside of the bulk storage area.
- The June, July, and October 2014 self-inspection reports identified nitrate residue around a fill pipe for the weak solution ammonium nitrate storage tank. The January and February 2015 self-inspection reports also document issues associated with the storage tank and accessories.
- The October 2014 self-inspection report documented ammonium nitrate solution that had been leaking from a pump for a couple of months.
- The October 2014 self-inspection report documented spillage of prilled ammonium nitrate outside the elevator conveyor at the bulk storage area. A wheel barrel was being used to capture most of the spilled material. This was also documented as a continuous occurrence in the November and December 2014 and January and February 2015 self-inspection reports.
- The November 2014 and February 2015 self-inspection reports documented a number of issues with spilled or released NAL and prill around the facility.
- The January 2015 self-inspection report documented spillage of lime around the storage tank near the water filtration plant.
- The February 2015 self-inspection report documented some leaking valves or gaskets.

Many of the aforementioned items did not include corrective action dates with the self-inspection reports. However, it appears most of the items were addressed prior to the subsequent monthly self-inspection. Some of the ongoing issues were also observed during the inspection and are noted later in this report. Other industrial releases reported by the facility over the last three years were documented as air emissions. A release related to the oxides of nitrogen occurred during October 2012. The estimated amount emitted was 287 lbs over a five minute timeframe. An air emission of ammonia gas also occurred during January 2013. The estimated amount emitted was 65 lbs over a 90 minute timeframe (a copy of the release reports has been submitted directly to the EPA files). The facility's written response to the NOPV indicates the self-inspection form will be updated to reflect the corrective action dates for items previously cited by the facility as deficient.

The following observations, unless noted otherwise, were not discussed in detail with the facility representatives during the inspection.

5. The NPDES permit requires the facility to develop and implement a storm water pollution prevention plan (SWPPP) to manage storm water runoff from the facility grounds. The SWPPP requires prompt cleanup of spilled or released products when spills or releases occur. During the inspection I reviewed or discussed areas where industrial activities could negatively impact the quality of storm water discharged from the site. The following information documents some of the site conditions that were observed or discussed with facility personnel. A few of the items correspond with recent ongoing issues documented in the facility's self-inspection reports:
 - a. A number of steam condensate discharges were occurring throughout the facility. Some of the more significant condensate discharges were captured with photographic imagery (photos 23,

- 32, and 43). Many of these discharges were percolating into the surrounding ground due to lack of flow.
- b. A storm water conveyance channel located immediately east of #3 lift station conveys storm water runoff to a vegetated low lying area between the lift station and outfall 001 monitoring point (photos 10 and 11). This drainage area appears to receive storm water runoff from a small section of the haul road immediately northeast of the prilled ammonium nitrate bulk storage dome. The area of runoff does not travel through one of the permitted outfalls, but rather appears to eventually drain to Buffalo Creek.
 - c. At least one pipe was observed protruding from the upper creek bank of Buffalo Creek immediately south of the Buffalo Creek lift station (photo 16). The pipe was not discharging during the inspection and Mr. Gregory was unable to identify the source connection. It was initially believed to be associated with the lift station or nearby building just northwest of the lift station.
 - d. An area of surface drainage adjacent to the carpenter shop drains onto the Calumet property (includes potential steam condensate discharges) (photos 23 and 24). Mr. Gregory also identified an inlet near an abandoned diesel storage tank that drains onto Calumet (photo 26). He indicated both of these drainage areas are eventually monitored under a separate Calumet industrial storm water discharge permit.
 - e. There were some area inlets identified near the store room that transport storm water runoff from the facility onto the Ashland property north of the facility grounds. Mr. Gregory indicated the administrative area (includes the laboratory) and a small section of the railroad line also drain onto the Ashland property. He also believed that these areas of runoff drain to one of Ashland's permitted outfalls to Buffalo Creek just north of the outfall 001 monitoring point.
 - f. Most of the facility's chemical storage was within secondary containment (photos 50, 51, 54, 63, 71, 72, 81, and 82). Entrapped storm water within many of the containments is typically drained onto the surrounding ground as needed. However, there are some areas where containment structures or areas of containment are not drained onto the ground. One of the areas includes the storage tank used to store weak ammonium nitrate solution (photo 57). Another area captures leaking oil from the pressure train at the AOP (photos 37 and 38). The oil drains into an oil/water separator and is recycled back into the system. Water captured by the separator is disposed with used oil. Mr. Gregory indicated used oil is shipped offsite approximately once per year.
 - g. A number of building floor drains and hand wash sinks were reported to drain to the lined lagoon cell. One of the hand wash sinks was located in an area where laboratory chemicals were being used.
 - h. There were many exposed loading areas observed throughout the facility. The loading areas for prilled ammonium nitrate drain to an onsite holding tank. The tank contents are sold to farmers as a weak fertilizer solution.
 - i. Many uncovered trash dumpsters were observed around the facility (photo 42). Outdoor materials storage was also noted around the facility grounds (photos 44, 48, and 52).
 - j. Hazardous waste containers are transferred from the storage building (photo 60) to a separate covered area (photo 53) for offsite shipment. The shipment area was reported to drain onto the Ashland property and not through one of the facility's permitted monitoring points. Mr. Gregory indicated hazardous waste (primarily methanol waste) is shipped offsite three to four times per year.
 - k. Payloaders that move prilled ammonium nitrate within the bulk storage dome are maintained at the onsite garage. A payloaders was located outside of the garage area and had prilled ammonium nitrate residual on the front blade (photo 56). This suggests that ammonium nitrate is not completely removed from the blades before these vehicles exit the bulk storage dome.

- l. Two areas of soil erosion were evident. One area was located along the north side of the haul road immediately north of the prilled ammonium nitrate bulk storage dome (photo 8). The other area was a non-vegetated hillside just north of the water filtration plant (photo 73). The facility's SWPPP requires eroded areas to be stabilized to prevent impacts with storm water runoff.
- m. Spillage of prilled ammonium nitrate was occurring at the conveyor elevator just outside of the bulk storage dome (photo 62). A wheel barrel was in place to capture some of the spilled material; however, much of the material was deposited onto the surrounding ground. Some minor track-out of prilled ammonium nitrate was also observed at the entry/exit door to the bulk storage dome (photo 66).
- n. Spillage or releases of prilled ammonium nitrate was observed at the base of the production tower (photos 67 and 69). Mr. Gregory indicated the nearby storm water inlet drain (photo 68) is covered with a mat to prevent major spills within the immediate area from entering the storm water conveyance system.
- o. Spillage of lime was observed around the lime storage tank at the water filtration plant (photo 79).
- p. Storm water runoff around the facility's wastewater treatment system drains into the railroad right-of-way. The exact direction of surface drainage from the treatment system could not be determined, but appeared to eventually travel along the railroad tracks towards the Mississippi River.

Mr. Gregory indicated fallout from the prilled ammonium nitrate production tower was thought to be a significant source of nitrogen contamination in storm water runoff leading to the lined lagoon cell. He also indicated the EDR unit accounts for a small portion of the ammonia discharged (e.g., around 10 lbs/day). The EDR unit is designed to remove nitrates from the waste stream, but is not designed to remove ammonia. Mr. Gregory further indicated that the 30% process water from NAC is bypassed around the lined lagoon cell directly to outfall 008 to prevent hydraulic overload to the lagoon.


6. The facility's SWPPP cross-references spill prevention and response procedures under a separate spill prevention, control, and countermeasures (SPCC) plan (a copy of the SPCC plan has been submitted directly to the EPA files). The facility's SPCC plan requires additional self-inspections and reports to be conducted and generated on the bulk oil storage areas and processing equipment where oil is used. I collected a copy of and later conducted a cursory review of the February 2012 through February 2015 SPCC self-inspection reports (a copy of the SPCC self-inspection reports has been submitted directly to the EPA files). Secondary containment drainage logs were also included with the self-inspection reports. The facility did not report any significant oil spills over the last three years. The secondary containment drainage logs document low pH levels on the containment discharge for a cooling tower storage containment. It is not clear, however, if the low pH water is discharged to the ground surface or directly to the lined lagoon cell.
7. The analytical results of the effluent samples I collected March 9–12, 2015 (Attachment 19), indicate the TSS and O&G pollutant concentrations measured for outfall 001 and other pollutant concentrations measured for outfalls 002 and 003 met the discharge limitations established by the facility's NPDES permit. The ammonia as nitrogen average mass result of 228 lbs/day for outfall 001 exceeded the allowable monthly average permit limitation of 122 lbs/day. The nitrate as nitrogen average mass result of 342 lbs/day for outfall 001 exceeded the allowable monthly average permit limitation of 341 lbs/day.

The average amount of sulfate discharged through outfall 001 was 966 lbs/day; however, sulfate is not limited in the NPDES permit. Pesticides concentrations for outfall 001 were undetected. Also, some trace metals were documented for outfall 001, but many were not detected above the detection limit. The facility incorrectly reported the flow reading for outfall 001 during the first sampling day. The actual flow results for outfall 001 during the first day should be listed as 0.44688 million gallons per day (MGD) instead of what is listed on the laboratory report. The nitrogen results for outfall 002 suggest incomplete ammonification and nitrification within the treatment system. It also appears that denitrification is minimal. The facility is not required to monitor total nitrogen at outfall 002; however, a monitoring requirement is placed on ammonia.

8. The average flow recorded from the facility's wastewater treatment system during 2014 was approximately 0.037 MGD. This amount is based on instantaneous flow measurements. The theoretical flow based on the population served should be around 0.001035 MGD. Mr. Gregory indicated there is significant inflow and infiltration (I&I) in the sewer lines leading to the wastewater treatment system. He further indicated there is no process wastewater discharged to the wastewater treatment system. He indicated the facility has received approval from the MDNR to install a subsurface septic tank with leachate field, replace the sewer lines leading to the new system, and eliminate outfall 002. The facility is planning to complete this project during 2015. The facility also intends to permanently remove the old mechanical wastewater treatment plant components during the subsequent year.

RECOMMENDATIONS

1. Dyno Nobel must ensure the entire facility is managed in a manner to prevent numerical permit limit exceedances through each permitted outfall. A written notification must be submitted to the MDNR on any daily maximum exceedance within five days of becoming aware of such conditions. The written submission must include a description of noncompliance and its cause; the period of noncompliance including exact dates and times; whether the noncompliance has been corrected or the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent a reoccurrence of the noncompliance.
2. Dyno Nobel must perform laboratory analyses in accordance with approved test procedures. Any modification to the approved method must be properly documented in a method write-up and include equivalent performance to the approved method.
3. Dyno Nobel should minimize the exposure of materials from precipitation to the extent practical. Spillage of industrial materials (e.g., prilled ammonium nitrate, lime, etc.) should be prevented to the extent practical. Any spilled industrial materials must be promptly mitigated.



David Pratt

Life Scientist

Activity Number: WPD131

Date: May 6, 2015

ATTACHMENTS

1. CD (1 total)
2. Business Cards (1 page)
3. Site Maps (2 pages)
4. NPDES Permits (27 pages)
5. Production Flow Diagrams (2 pages)
6. Production Rates (2 pages)
7. Site History (1 page)
8. Water Filtration Plant Flow Diagram (1 pages)
9. Water Balance Table (1 page)
10. Water Compliance Inspection Report (4 pages)
11. NPDES Industrial Storm Water Worksheet (6 pages)
12. EPA Confidentiality Notice (1 page)
13. Region VII Multimedia Screening Checklist (2 page)
14. EPA Receipt for Documents and Samples (1 page)
15. NOPV (1 page)
16. Written Response to NOPV (4 pages)
17. MDNR LOW and Facility Correspondence (14 pages)
18. Bypass Report (2 pages)
19. EPA Analytical Test Results (38 pages)

SAM CORRENTI
Plant Manager

DYNO NOBEL

A business of Incitec Pivot Limited
11025 Highway D
PO Box 450
Louisiana, Missouri 63353
USA

Office: 573 754 4501 ext 3007
Cell: 573 239 5107
Fax: 573 754 6525
sam.correnti@am.dynonobel.com

DYNO
Dyno Nobel

Groundbreaking Performance

BRIAN GREGORY
Environmental Coordinator
LOMO Plant

DYNO NOBEL

A business of Incitec Pivot Limited
P.O. Box 450
11025 Highway D
Louisiana, Missouri 63353
USA

Office: 573 754 4501 X3023
Cell: 573 629 8679
Fax: 573 754 6525
brian.gregory@am.dynonobel.com

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Groundbreaking Performance



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Dyno Nobel
Groundbreaking
Performance

DYNO NOBEL INC.
LOMO Plant
11025 Highway D
Louisiana, MO 63353

— = Dyno Nobel Property Line
1 inch = 200 feet (approx.)

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0105783

Owner: Dyno Nobel
Address: 2795 East Cottonwood Parkway, Salt Lake City UT 84121

Continuing Authority: Dyno Nobel, LOMO Plant
Address: 11025 Highway D, Louisiana MO 63353

Facility Name: Dyno Nobel, LOMO Plant
Facility Address: 11025 Highway D, Louisiana MO 63353

Legal Description: E ¼, SW ¼, Sec 21, T54N, R1W, Pike County
UTM Coordinates: X = 670531, Y = 4366585

Receiving Stream: Mississippi River P
First Classified Stream and ID: Mississippi River (P) (3699)
USGS Basin & Sub-watershed No.: 07110004-0702

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein;

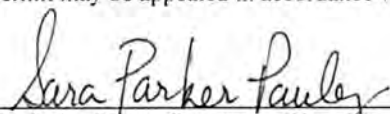
FACILITY DESCRIPTION

Dyno Nobel, LOMO plant manufactures nitric acid, ammonium nitrate and ammonium nitrate (prill). The facility's previous power source was produced by Hercules Inc. via coal fired boilers. These coal fired boilers were shut down in May 2011 and replaced with a Natural Gas boiler. Sanitary waste is treated by an Imhoff anaerobic treatment unit. Filter backwash from the water treatment plant is discharged to a lagoon for settling of solids. Outfall #001 is the discharge point of all wastewater generated by this facility. Outfall #008 is an internal monitoring point at the plant out weir box. See next page.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

March 2, 2012
Effective Date

November 5, 2014
Modification Date


Sara Parker Pauley, Director, Department of Natural Resources

March 1, 2017
Expiration Date


John Madros, Director, Water Protection Program

FACILITY DESCRIPTION (continued):

Legal responsibility for outfall #001 is shared as documented in the "Agreement for Responsibility for a Joint NPDES Permit" dated September 16, 1986. That document is a part of this permit's factsheet, see Appendix 1.

Outfall #001 – Shared outfall between Dyno Nobel LOMO manufacturing areas and Ashland Water Technologies (Calumet). Wastewater from the nitrogen products area is routed to an equalization lagoon where pH is adjusted before being discharged to outfall #001. Other wastes included are untreated effluent from the cooling tower blowdown, boiler blowdown, and stormwater. Hercules Incorporated Missouri Chemical Works is being removed as a shared partner of this outfall because the facility no longer discharges to waters of the state. (Description modified August 2014.)

The average flow is 0.8 MGD.

Design flow is 3.6 MGD.

Legal Description: E ¼, SW ¼, Sec 21, T54N, R1W, Pike County
UTM Coordinates: X = 670531, Y = 4366585
Receiving Stream: Mississippi River
First Classified Stream and ID: Mississippi River (P) (3699)
USGS Basin & Sub-watershed No.: 071100040702

Outfall #002 – This outfall formerly belonged to Hercules, Inc. (MO-0000311) and is being transferred to this permit. Imhoff Unit-Discharges treated sanitary effluent. The Average flow is 0.041 MGD.

Design flow is 0.163 MGD.

Legal Description: NW ¼, SE ¼, Sec 20, T54N, R1W, Pike County
UTM Coordinates: X = 669660, Y = 4367029
Receiving Stream: Mississippi River
First Classified Stream and ID: Mississippi River (P) (3699)
USGS Basin & Sub-watershed No.: 071100040702

Outfall #003 – This outfall formerly belonged to Hercules, Inc. (MO-0000311) and is being transferred to this permit. Discharges treated filter backwash from the water treatment plant. The flow is 0.424 MGD.

Design flow is 0.967 MGD.

Legal Description: SW ¼, NW ¼, Sec 28, T54N, R1W, Pike County
UTM Coordinates: X = 670286, Y = 4365716
Receiving Stream: Buffalo Creek
First Classified Stream and ID: Buffalo Creek (P) (0014)
USGS Basin & Sub-watershed No.: 071100040702

Outfall # 004 This outfall has been closed as noted in the previous permit.

Outfall # 008 Internal Monitoring Point at the plant out weir box.

Legal Description: SW ¼, Sec 21, T54N, R1W, Pike County
UTM Coordinates: X = 670195, Y = 4366408
Receiving Stream: Mississippi River
First Classified Stream and ID: Mississippi River (P) (3699)
USGS Basin & Sub-watershed No.: 071100040702

Note: This entire complex was once a single plant, thus the reason for the shared outfall #001. Hercules Inc MCW Plant formerly operated outfalls #002, #003, #005, #006 and #007.

| A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS | | | | | PAGE NUMBER 3 of 10 | |
|--|------------|----------------------------|----------------|-----------------|--------------------------------|-----------------|
| | | | | | PERMIT NUMBER MO-0105783 | |
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below: | | | | | | |
| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #001</u> | | | | | | |
| Flow | MGD | * | | * | once/weekday | 24 hr. estimate |
| Biochemical Oxygen Demand ₅ | lbs/day | * | | * | once/week | 24 hr. comp.*** |
| Biochemical Oxygen Demand ₅ | mg/L | * | | * | once/week | 24 hr. comp.*** |
| Total Suspended Solids | lbs/day | 925 | | 283 | once/week | 24 hr. comp.*** |
| Total Suspended Solids | mg/L | * | | * | once/week | 24 hr. comp.*** |
| pH – Units | SU | ** | | ** | continuous | |
| Ammonia as N | lbs/day | 399 | | 122 | once/week | 24 hr. comp.*** |
| Ammonia as N | mg/L | * | | * | once/week | 24 hr. comp.*** |
| Nitrate as N | lbs/day | 893 | | 341 | once/week | 24 hr. comp.*** |
| Oil and Grease | mg/L | 15 | | 10 | once/week | grab |
| Sulfate | mg/L | * | | * | once/month | grab |
| Aluminum, Total Recoverable | µg/L | * | | * | once/quarter**** | grab |
| Barium, Total Recoverable | µg/L | * | | * | once/quarter**** | grab |
| Iron, Total Recoverable | µg/L | * | | * | once/quarter**** | grab |
| Delta BHC | µg/L | * | | * | once/quarter**** | grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>July 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS. | | | | | | |
| Whole Effluent Toxicity (WET) test | % Survival | See Special Conditions | | | Twice/year 24 hr. composite*** | |
| MONITORING REPORTS SHALL BE SUBMITTED <u>JULY 28TH</u> AND <u>JANUARY 28TH</u> ; THE FIRST REPORT IS DUE <u>July 28, 2012</u> . | | | | | | |
| B. STANDARD CONDITIONS | | | | | | |
| IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN. | | | | | | |

| | |
|--|--------------------------|
| A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS | PAGE NUMBER 4 of 10 |
| | PERMIT NUMBER MO-0105783 |

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
|---|-------|----------------------------|-------------------|--------------------|----------------------------|----------------|
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #001</u> | | | | | | |
| Flow (Effluent) | cfs | * | | | once/day | grab |
| Flow (Stream) (Note 1) | cfs | * | | | once/day | grab |
| Temperature (Stream) (Note 2) | °F | * | | | once/day | grab |
| Temperature (Effluent) | °F | * | | | once/day | grab |
| ΔT (Note 3) | °F | 5°F | | 5°F | once/day | grab |
| T _{cap} (Note 4) (Zone A) | °F | | | | once/day | grab |
| January | | 45 | | 45 | | |
| February | | 45 | | 45 | | |
| March | | 57 | | 57 | | |
| April | | 68 | | 68 | | |
| May | | 78 | | 78 | | |
| June | | 86 | | 86 | | |
| July | | 88 | | 88 | | |
| August | | 88 | | 88 | | |
| September | | 86 | | 86 | | |
| October | | 75 | | 75 | | |
| November | | 65 | | 65 | | |
| December | | 52 | | 52 | | |
| T _{max} (Note 4) (Zone A) | °F | | | | once/day | grab |
| January | | 48 | | 48 | | |
| February | | 48 | | 48 | | |
| March | | 60 | | 60 | | |
| April | | 71 | | 71 | | |
| May | | 81 | | 81 | | |
| June | | 89 | | 89 | | |
| July | | 91 | | 91 | | |
| August | | 91 | | 91 | | |
| September | | 86 | | 86 | | |
| October | | 78 | | 78 | | |
| November | | 68 | | 68 | | |
| December | | 55 | | 55 | | |

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE April 28, 2012. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED August 1, 2014 and March 1, 2014, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PERMIT NUMBER MO-0105783

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
|--|-----------|----------------------------|----------------|-----------------|-------------------------|------------------|
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #002</u> | | | | | | |
| Flow | MGD | * | | * | once/weekday | 24 hr. estimate |
| Biochemical Oxygen Demand ₅ | mg/L | | 45 | 30 | once/month | 24 hr. comp.**** |
| Total Suspended Solids | mg/L | | 45 | 30 | once/month | 24 hr. comp.**** |
| pH – Units | SU | *** | | *** | once/month | grab |
| <i>E. coli</i> (Note 7) | #/ 100 mL | 630 | | 126 | once/week | grab |
| Ammonia as N | mg/L | * | | * | once/quarter***** | grab |
| Oil and Grease | mg/L | 15 | | 10 | once/month | grab |

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JANUARY 28, 2014. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
|--|---------|----------------------------|----------------|-----------------|-------------------------|-----------------|
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #003</u> | | | | | | |
| Flow | MGD | * | | * | once/weekday | 24 hr. estimate |
| Settleable Solids | mL/L/hr | 1.0 | | 1.0 | once/month | grab |
| pH-Units | SU | *** | | *** | once/month | grab |

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE DECEMBER 28, 2013. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units. Since continuous monitoring of pH is required, the total time during which pH values are outside of the required range shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursion shall exceed 60 minutes at outfall 001 in ac

*** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5 – 9.0.

**** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.

***** Sample once per quarter in the months of March, June, September, and December. See table below for quarterly sampling.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

| Sample discharge at least once for the months of: | Report is due: |
|---|----------------|
| January, February, March (1st Quarter) | April 28 |
| April, May, June (2nd Quarter) | July 28 |
| July, August, September (3rd Quarter) | October 28 |
| October, November, December (4th Quarter) | January 28 |

Note 1: Stream flow. Stream flow is the daily flow of the receiving stream – intake flow.

Note 2: Temperature (Stream). It is recommended that if the Intake structure does not adequately provide a temperature of the receiving stream, then the facility should use the receiving stream's ambient temperature.

Note 3: $\Delta T = [((Q_s/4)T_s + Q_eT_e) / ((Q_s/4) + Q_e)] - T_s$

Where:

$Q_s/4$: is the daily receiving stream's mixing zone flow in cfs minus the Intake flow in cfs.

Q_e : is the effluent's flow in cfs.

T_s : is the stream's temperature (ambient/intake temperature).

T_e : is the effluent's temperature.

ΔT : is the amount in $^{\circ}\text{F}$ that the facility is causing the receiving stream's temperature to rise at the end of the regulatory mixing zone.

Note 4: Temperature Cap is the temperature of the receiving stream at the end of the regulatory mixing zone (if applicable). It is designated with $[T_{cap}]$ in the equation below.

$$T_{cap} = [((Q_s/4)T_s + Q_eT_e) / ((Q_s/4) + Q_e)]$$

Where:

$Q_s/4$ = Daily receiving stream's flow divided by 4 (Mixing Consideration) in cfs minus the Intake flow in cfs.

T_s = Daily receiving stream's temperature. This can be the actual ambient temperature of the receiving stream or the intake water temperature (both in $^{\circ}\text{F}$).

Q_e = Daily effluent flow or intake flow.

T_e = Daily effluent temperature in $^{\circ}\text{F}$.

- If the T_{cap} calculated temperature value is less than the specific month's Daily Maximum or Monthly Average T_{cap} , the permittee is to report the calculated temperature value as T_{cap} and report a "No Discharge" for T_{max} .
- If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} limit, but is below the T_{max} and there is time available in Percent Deviation Allowance (see Note 6); then the permittee is to report in accordance with Note 5 below.
- If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} limit but is below the T_{max} , but there is no time available in Percent Deviation Allowance (see Note 6); then the permittee is to report the calculated temperature value as T_{cap} and report a "No Discharge" for T_{max} .
- If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} and T_{max} ; then the permittee is to report in accordance with Note 5.

Note 5: Temperature Maximum is the maximum that a facility can increase the temperature of the receiving stream by at the end of the regulatory mixing zone (if applicable). It is designated with the $[T_{max}]$ in the equation below and is the T_{cap} monthly limit plus three ($+3^{\circ}\text{F}$).

$$T_{max} = [((Q_s/4)T_s + Q_eT_e) / ((Q_s/4) + Q_e)]$$

Where:

$Q_s/4$ = Daily receiving stream's flow divided by 4 (Mixing Consideration) in cfs minus the Intake flow in cfs.

T_s = Daily receiving stream's temperature. This can be the actual ambient temperature of the receiving stream or the intake water temperature (both in $^{\circ}\text{F}$).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Q_e = Daily effluent flow or intake flow.

T_e = Daily effluent temperature in °F.

- (a) If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} limit, but is below the T_{max} and there is time available in Percent Deviation Allowance (see Note 6); then the permittee is to report the calculated temperature value as T_{max} and report a "No Discharge" for T_{cap} .
- (b) If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} and T_{max} ; then the permittee is to report the calculated temperature value as T_{max} and report a "No Discharge" for T_{cap} .

Note 6 – Missouri's Water Quality Standards allows permittees to exceed their applicable criteria for 1% of the year in Zone A in the Mississippi River. Percent Deviation Allowance shall be tracked in hours per year (please see **Special Condition 6 – Percent Deviation Allowance**).

Note 7 - Final limitations and monitoring requirements for E. coli are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for E. coli is expressed as a geometric mean.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
4. Water Quality Standards
 - (a) To the extent required by law, discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

C. SPECIAL CONDITIONS (continued)

5. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

6. Report as no-discharge when a discharge does not occur during the report period.

7. Percent Deviation Allowance

Site-specific temperature criteria for the thermal discharges to the Mississippi River allow the permittee to exceed their applicable temperature criteria for 1% of the year for Zone A. This facility discharges to Zone A of the Mississippi River. Therefore, the permittee is authorized to exceed their Temperature Cap effluent limitation for 88 hours in one (1) calendar year. However, the permittee is not authorized to exceed their Temperature Max limitation at any time.

- (1) The permittee shall document the time in hours to the nearest minute that their calculated temperature values exceeded a specific month's Daily Maximum T_{cap} effluent limit. This time is to be subtracted from 88 hours to the nearest minute.
- (2) The permittee shall submit an annual report on January 28th of each year that includes the number of hours that the facility exceeded their Temperature Cap effluent limits for each month during the previous calendar year.
- (3) If the permittee exceeds their maximum allowed Percent Deviation Allowance of 88 hours prior to the end of the calendar year, then the permittee shall submit a Maximum Percent Deviation Exceeded Report to the Northeast Regional Office within 15 days of notice.
- (4) Percent Deviation Allowance is not applicable to the permit parameter of Temperature Maximum.

8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.

9. The permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be kept on-site. The SWPPP must be reviewed and updated, if needed, every year or as site conditions change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document:

Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators, (Document number EPA 833-B-09-002) published by the United States Environmental Protection Agency (USEPA) in February 2009.

The SWPPP must include the following:

- (a) A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter storm water. Minimum BMPs are listed in SPECIAL CONDITIONS #10 below.
- (b) The SWPPP must include a schedule for once per month site inspections and brief written reports. These reports must be kept on file with the SWPPP at the facility. The inspections must include observation and evaluation of BMP effectiveness, noting any deficiencies. Deficiencies must be documented within 24 hours of discovery. Corrective action to address deficiencies must be documented within fourteen (14) days and shall be included with the written report. Any corrective measure that necessitates major construction may also need a construction permit. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to DNR personnel upon request.
- (c) A provision for designating an individual to be responsible for environmental matters.
- (d) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of DNR.

C. SPECIAL CONDITIONS (continued)

10. Permittee shall adhere to the following minimum Best Management Practices:

- a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
- b) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
- c) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMP's such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
- d) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
- e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.
- f) Try to prevent storm water from coming into contact with polluting materials. This is generally more effective, and less costly, than trying to remove pollutants from stormwater
- g) You must divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff, to minimize pollutants in your discharges.

11. Flow measurements during flood events

When the Mississippi River exceeds flood stage and flow measurement at the primary measuring device for outfall 001 is precluded due to flooding, the permittee shall make an acceptable estimate based on flow measurements taken at outfalls 006 (Ashland Hercules outfall) and 008 and analysis of a quantifiable parameter. The Permittee shall maintain record of estimates and the calculation work sheet.

12. Whole Effluent Toxicity (WET) Test shall be conducted as follows:

| SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT | | | | | | | | | |
|--|-----------------|-----------------|-----------------|----------------|------------------|--|--|--|--|
| OUTFALL | | AEC | | FREQUENCY | | SAMPLE TYPE | | Dates | |
| 001 | | 10% | | Semi-Annual | | 24 hr. composite*** | | May 15 th and December 15 th | |
| Dilution Series | | | | | | | | | |
| AEC%= 10% | 40% effluent | 20% effluent | 10% effluent | 5% effluent | 2.5% effluent | (Control) 100% upstream, if available | | (Control) 100% Lab Water, also called synthetic water | |

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department's WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
 - (a) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
 - (b) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analysis performed upon any other effluent concentration.
 - (c) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
- (2) The WET test will be considered a failure if mortality observed in effluent concentrations equal to or less than the AEC is significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available, synthetic laboratory control water may be used.

C. SPECIAL CONDITIONS (continued)

- (3) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
 - (4) If the effluent fails the test at outfall 001, a multiple dilution test shall be performed in conjunction with Ashland Hercules at outfall 001. The facilities shall test for BOTH species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met: Note: Written request regarding single species multiple dilution accelerated testing will be address by THE WATER PROTECTION PROGRAM on a case by case basis.
 - (i) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
 - (ii) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
 - (5) Follow-up tests do not negate an initial failed test.
 - (6) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
 - (7) Additionally, the following shall apply upon failure of the third follow up MULTIPLE DILUTION test The permittee should contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact THE WATER PROTECTION PROGRAM upon the third follow up test failure, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of the automatic trigger or DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
 - (8) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
 - (9) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
 - (10) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.
 - (11) Submit a concise summary in tabular format of all WET test results with the annual report.
- (b) Test Conditions
- (1) Test Type: Acute Static non-renewal
 - (2) All tests, including repeat tests for previous failures, shall include both test species listed below unless approved by the department on a case by case basis.
 - (3) Test species: *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
 - (4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.
 - (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
 - (6) Tests will be run with 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent, and reconstituted water.
 - (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
 - (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.
 - (9) Whole-effluent-toxicity test shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms



**STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION**

Revised
October 1, 1980

**PART I - GENERAL CONDITIONS
SECTION A - MONITORING AND REPORTING**

1. Representative Sampling

- a. Samples and measurements taken as required herein shall be representative of the nature and volume, respectively, of the monitored discharge. All samples shall be taken at the outfall(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
- b. Monitoring results shall be recorded and reported on forms provided by the Department, postmarked no later than the 28th day of the month following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the respective Department Regional Office, the Regional Office address is indicated in the cover letter transmitting the permit.

2. Schedule of Compliance

No later than fourteen (14) calendar days following each date identified in the "Schedule of Compliance", the permittee shall submit to the respective Department Regional Office as required therein, either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements, or if there are no more scheduled requirements, when such noncompliance will be corrected. The Regional Office address is indicated in the cover letter transmitting the permit.

3. Definitions

Definitions as set forth in the Missouri Clean Water Law and Missouri Clean Water Commission Definition Regulation 10 CSR 20-2.010 shall apply to terms used herein.

4. Test Procedures

Test procedures for the analysis of pollutant shall be in accordance with the Missouri Clean Water Commission Effluent Regulation 10 CSR 20-7015.

5. Recording of Results

- a. For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:
 - (i) the date, exact place, and time of sampling or measurements;
 - (ii) the individual(s) who performed the sampling or measurements;
 - (iii) the date(s) analyses were performed;
 - (iv) the individual(s) who performed the analyses;
 - (v) the analytical techniques or methods used; and
 - (vi) the results of such analyses.
- b. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or both.
- c. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monitoring Report Form. Such increased frequency shall also be indicated.

7. Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recording for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

SECTION B - MANAGEMENT REQUIREMENTS

1. Change in Discharge

- a. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant not authorized by this permit or any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.
- b. Any facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants shall be reported by submission of a new NPDES application at least sixty (60) days before each such change, or, if they will not violate the effluent limitations specified in the permit, by notice to the Department at least thirty (30) days before such changes.

2. Noncompliance Notification

- a. If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Department with the following information, in writing within five (5) days of becoming aware of such conditions:
 - (i) a description of the discharge and cause of noncompliance, and
 - (ii) the period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.
- b. Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally with 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided with five (5) days of the time the permittee becomes aware of the circumstances. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

3. Facilities Operation

Permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions. Operators or supervisors of operations at publicly owned or publicly regulated wastewater treatment facilities shall be certified in accordance with 10 CSR 209.020(2) and any other applicable law or regulation. Operators of other wastewater treatment facilities, water contaminant source or point sources, shall, upon request by the Department, demonstrate that wastewater treatment equipment and facilities are effectively operated and maintained by competent personnel.

4. Adverse Impact

The permittee shall take all necessary steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in this permit or set forth in the Missouri Clean Water Law and Regulations (hereinafter the Law and Regulations), including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. **Bypassing**

- a. Any bypass or shut down of a wastewater treatment facility and tributary sewer system or any part of such a facility and sewer system that results in a violation of permit limits or conditions is prohibited except:
 - (i) where unavoidable to prevent loss of life, personal injury, or severe property damages; and
 - (ii) where unavoidable excessive storm drainage or runoff would catastrophically damage any facilities or processes necessary for compliance with the effluent limitations and conditions of this permit;
 - (iii) where maintenance is necessary to ensure efficient operation and alternative measures have been taken to maintain effluent quality during the period of maintenance.
- b. The permittee shall notify the Department in writing of all bypasses or shut down that result in a violation of permit limits or conditions. This section does not excuse any person from liability, unless such relief is otherwise provided by the statute.

6. **Removed Substances**

Solids, sludges, filter backwash, or any other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from entering waters of the state unless permitted by the Law, and a permanent record of the date and time, volume and methods of removal and disposal of such substances shall be maintained by the permittee.

7. **Power Failures**

In order to maintain compliance with the effluent limitations and other provisions of this permit, the permittee shall either:

- a. in accordance with the "Schedule of Compliance", provide an alternative power source sufficient to operate the wastewater control facilities; or,
- b. if such alternative power source is not in existence, and no date for its implementation appears in the Compliance Schedule, halt or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

8. **Right of Entry**

For the purpose of inspecting, monitoring, or sampling the point source, water contaminant source, or wastewater treatment facility for compliance with the Clean Water Law and these regulations, authorized representatives of the Department, shall be allowed by the permittee, upon presentation of credentials and at reasonable times;

- a. to enter upon permittee's premises in which a point source, water contaminant source, or wastewater treatment facility is located or in which any records are required to be kept under terms and conditions of the permit;
- b. to have access to, or copy, any records required to be kept under terms and conditions of the permit;
- c. to inspect any monitoring equipment or method required in the permit;
- d. to inspect any collection, treatment, or discharge facility covered under the permit; and
- e. to sample any wastewater at any point in the collection system or treatment process.

9. **Permits Transferable**

- a. Subject to Section (3) of 10 CSR 20-6.010 an operating permit may be transferred upon submission to the Department of an application to transfer signed by a new owner. Until such time as the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
- b. The Department, within thirty (30) days of receipt of the application shall notify the new permittee of its intent to revoke and reissue or transfer the permit.

10. **Availability of Reports**

Except for data determined to be confidential under Section 308 of the Act, and the Law and Missouri Clean Water Commission Regulation for Public Participation, Hearings and Notice to Governmental Agencies 10 CSR 20-6.020, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by statute, effluent data shall not be considered confidential. Knowingly making any false statement on any such report shall be subject to the imposition of criminal penalties as provided in Section 204.076 of

the Law.

11. **Permit Modification**

- a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
 - (i) violation of any terms or conditions of this permit or the Law;
 - (ii) having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
 - (iii) a change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge, or
 - (iv) any reason set forth in the Law and Regulations.
- b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

12. **Permit Modification - Less Stringent Requirements**

If any permit provisions are based on legal requirements which are lessened or removed, and should no other basis exist for such permit provisions, the permit shall be modified after notice and opportunity for a hearing.

13. **Civil and Criminal Liability**

Except as authorized by statute and provided in permit conditions on "Bypassing" (Standard Condition B-5) and "Power Failures" (Standard Condition B-7) nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

14. **Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act, and the Law and Regulations. Oil and hazardous materials discharges must be reported in compliance with the requirements of the Federal Clean Water Act.

15. **State Laws**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state statute or regulations.

16. **Property Rights**

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of or violation of federal, state or local laws or regulations.

17. **Duty to Reapply**

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit 180 days prior to expiration of this permit.

18. **Toxic Pollutants**

If a toxic effluent standard, prohibition, or schedule of compliance is established, under Section 307(a) of the Federal Clean Water Act for a toxic pollutant in the discharge of permittee's facility and such standard is more stringent than the limitations in the permit, then the more stringent standard, prohibition, or schedule shall be incorporated into the permit as one of its conditions, upon notice to the permittee.

19. **Signatory Requirement**

All reports, or information submitted to the Director shall be signed (see 40 CFR-122.6).

20. **Rights Not Affected**

Nothing in this permit shall affect the permittee's right to appeal or seek a variance from applicable laws or regulations as allowed by law.

21. **Severability**

The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

**STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
AUGUST 15, 1994**

PART III - SLUDGE & BIOSOLIDS FROM DOMESTIC WASTEWATER TREATMENT FACILITIES

SECTION A - GENERAL REQUIREMENTS

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulations and incorporates applicable federal sludge disposal requirements under 40 CFR 503. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFS 503 until such time as Missouri is delegated the new EPA sludge program. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Sludge and Biosolids Use and Disposal Practices.
 - a. Permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
 - b. Permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
 - c. Permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
 - d. A separate operating permit is required for each operating location where sludge or biosolids are generated, stored, treated, or disposed, unless specifically exempted in this permit or in 10 CSR 20, Chapter 6 regulations. For land application, see section H, subsection 3 of these standard conditions.
4. Sludge Received From Other Facilities
 - a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
 - b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge.
 - c. Sludge received from out-of-state generators shall receive prior approval of the permitting authority and shall be listed in the facility description or special conditions section of the permit.
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RsMo.
8. In addition to these STANDARD CONDITIONS, the department may include sludge limitations in the special conditions portion or other sections of this permit.
9. Alternate Limits in Site Specific Permit.

Where deemed appropriate, the department may require an individual site specific permit in order to authorize alternate limitations:

 - a. An individual permit must be obtained for each operating location, including application sites.
 - b. To request a site specific permit, an individual permit application, permit fees, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the department, as follows:
 - a. The department will prepare a permit modification and follow permit public notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owners of property located adjacent to each land application site, where appropriate.
 - b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR 503.
11. Compliance Period

Compliance shall be achieved as expeditiously as possible but no later than the compliance dates under 40 CFR 503.2.

SECTION B - DEFINITIONS

1. Biosolids means an organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge. Untreated sludge or sludge that does not conform to the pollutants and pathogen treatment requirements in this permit is not considered biosolids.
2. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
3. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
4. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
5. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a public owned treatment works (POTW) or privately owned facility.
6. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include unacrated wastewater treatment lagoons and constructed wetlands for wastewater treatment.
7. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
8. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the next growing season after biosolids application.
9. Sinkhole is a depression in the land surface into which surface water flows to join an underground drainage system.
10. Site Specific Permit is a permit that has alternate limits developed to address specific site conditions for each land application site or storage site.
11. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks.
12. Sludge lagoon is an earthen basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
13. Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamp, marshes, bogs, and similar areas. Wetlands do not include constructed wetlands used for wastewater treatment.

SECTION C - MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Sludge shall be routinely removed from the wastewater treatment facilities and handled according to the permit facility description and sludge conditions in this permit.
2. The permittee shall operate the facility so that there is no sludge loss into the discharged effluent in excess of permit limits, no sludge bypassing, and no discharge of sludge to waters of the state.
3. Mechanical treatment plants shall have separate sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D - SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR CONTRACT HAULER

1. This section applies to permittees that haul sludge to another treatment facility for disposal or use contract haulers to remove and dispose of sludge.
2. Permittees that use contract haulers are responsible for compliance with all the terms of this permit including final disposal, unless the contract hauler has a separate permit for sludge or biosolids disposal issued by the department; or the hauler transports the sludge to another permitted treatment facility.
3. The permittee shall require documentation from the contractor of the disposal methods used and permits obtained by the contractor.
4. Testing of sludge, other than total solids content, is not required if sludge is hauled to a municipal wastewater treatment facility or other permitted wastewater treatment facility.

SECTION E - WASTEWATER TREATMENT LAGOONS AND STORMWATER RETENTION BASINS

1. Sludge that is retained within a wastewater treatment lagoon is subject to sludge disposal requirements when the sludge is removed from the lagoon or when the lagoon ceases to receive and treat wastewater.
2. If sludge is removed during the year, an annual sludge report must be submitted.
3. Storm water retention basins or other earthen basins, which have been used as sludge storage for a mechanical treatment system is considered a sludge lagoon and must comply with Section G of this permit.

SECTION F - INCINERATION OF SLUDGE

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or if the ash is determined to be hazardous waste, shall be disposed in accordance with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored; and ash use or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.
4. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions sections of this permit.

SECTION G - SURFACE DISPOSAL SITES AND SLUDGE LAGOONS

1. Surface disposal sites shall comply with the requirements in 40 CFR 503 Subpart C, and solid waste disposal regulations under 10 CSR 80.
2. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions section of this permit.
3. Effective February 19, 1995, a sludge lagoon that has been in use for more than two years without removal of accumulated sludge, or that has not been properly closed shall comply with one of the following options:
 - a. Permittee shall obtain a site specific permit to address surface disposal requirements under 40 CFR 503, ground water quality regulations under 10 CSR 20, Chapter 7 and 8, and solid waste management regulations under 10 CSR 80;
 - b. Permittee shall clean out the sludge lagoon to remove any sludge over two years old and shall continue to remove accumulated sludge at least every two years or an alternate schedule approved under 40 CFR 503.20(b). In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of sludge on the bottom of the lagoon, upon prior approval of the department; or
 - c. Permittee shall close the lagoon in accordance with Section 1.

SECTION H - LAND APPLICATION

1. The permittee shall not land apply sludge or biosolids unless land application is authorized in the Facility Description or special conditions section of the permit.
2. This permit replaces and terminates all previous sludge management plan approvals by the department for land application of sludge or biosolids.
3. Land application sites within a 20 mile radius of the wastewater treatment facility are authorized under this permit when biosolids are applied for beneficial use in accordance with these standard conditions unless a site specific permit is required under Section A, Subsection 9.
4. Biosolids shall not be applied unless authorized in this permit or exempted under 10 CSR 20, Chapter 6.
 - a. This permit does not authorize the land application of sludge except when sludge meets the definition of biosolids.
 - b. This permit authorizes Class A or B₁ biosolids derived from domestic wastewater sludges to be land applied onto grass land, crop land, timber land or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
5. Public Contact Sites.

Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the department. Applications for approval shall be in the form of an engineering report and shall address priority pollutants and dioxin concentrations. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site-specific permit.

6. **Agricultural and Silvicultural Sites.**

In addition to specified conditions herein, this permit is subject to the attached Water Quality Guides numbers WQ 422 through 426 published by the University of Missouri, and hereby incorporated as though fully set forth herein. The guide topics are as follows:

| | |
|--------|---|
| WQ 422 | Land Application of Septage |
| WQ 423 | Monitoring Requirements for Biosolids Land Application |
| WQ 424 | Biosolids Standards for Pathogens and Vectors |
| WQ 425 | Biosolids Standards for Metals and Other Trace Substances |
| WQ 426 | Best Management Practices for Biosolids Land Application |

SECTION I - CLOSURE REQUIREMENTS

1. This section applies to all wastewater treatment facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees who plan to cease operation must obtain department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids, and ash. Permittee must maintain this permit until the facility is properly closed per 10 CSR 20-6.010 and 10 CSR 20-6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure shall not exceed the agricultural loading rates as follows:
 - a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
 - b. If a wastewater treatment lagoon has been in operation for 15 years or more, the sludge in the lagoon qualifies for Class B with respect to pathogens (see WQ 424, Table 3), and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B limitations. See WQ 423 and 424.
 - c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. See WQ 426 for calculation procedures. For a grass cover crop, the allowable PAN is 300 pounds/acre.
4. When closing a wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered "septage" under the "similar treatment works" definition. See WQ 422. Under the septage category, residuals may be left in place as follows:
 - a. Testing for metals or fecal coliform is not required.
 - b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at the rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
 - c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If more than 100 dry tons/acre will be left in the lagoon, test for nitrogen and determine the PAN in accordance with WQ 426. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berms shall be demolished, and the site shall be graded and vegetated so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoon closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed five acres in accordance with 10 CSR 20-6.200.
7. If sludge exceeds agricultural loading rates under Section H or I, a landfill permit or solid waste disposal permit shall be obtained to authorize on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR 503, Subpart C.

SECTION J - MONITORING FREQUENCY

1. At a minimum, sludge or biosolids shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed.
2. Testing for land application is listed under Section H, Subsection 6 of these standard conditions (see WQ 423). Once per year is the minimum test frequency. Additional testing shall be performed for each 100 dry tons of sludge generated or stored during the year.
3. Additional testing may be required in the special conditions or other sections of this permit. Permittees receiving industrial wastewater may be required to conduct additional testing upon request from the department.
4. Monitoring requirements shall be performed in accordance with, "POTW Sludge Sampling and Analysis Guidance Document", United States Environmental Protection Agency, August 1989, and subsequent revisions.

SECTION K - RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in these Standard Conditions and any additional items in the Special Conditions section of this permit. This shall include dates when the sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting Period
 - a. By January 28th of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and sludge or biosolids disposal facilities.
 - b. Permittees with wastewater treatment lagoons shall submit the above annual report only when sludge or biosolids are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Forms. The annual report shall be submitted on report forms provided by the department or equivalent forms approved by the department.
4. Report shall be submitted as follows:

Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the department and EPA. Other facilities need to report only to the department. Reports shall be submitted to the addresses listed as follows:

DNR regional office listed in your permit
(See cover letter of permit)

EPA Region VII
Water Compliance Branch (WACM)
Sludge Coordinator
726 Minnesota Ave.
Kansas City, KS 66101

5. Annual Report Contents. The annual report shall include the following:
 - a. Sludge/biosolids testing performed. Include a copy or summary of all test results, even if not required by this permit.
 - b. Sludge or Biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at end of year, and the quantity used or disposed.
 - c. Gallons and % solids data used to calculate the dry ton amounts.
 - d. Description of any unusual operating conditions.
 - e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
 - (1) This must include the name, address and permit number for the hauler and the sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name and permit number of that facility.
 - (2) Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
 - f. Contract Hauler Activities.

If contract hauler, provide a copy of a signed contract or billing receipts from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate sludge disposal or biosolids use permit.
 - g. Land Application Sites.
 - (1) Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as legal description for nearest 1/4, 1/2, 3/4, Section, Township, Range, and County, or as latitude and longitude.
 - (2) If biosolids application exceeds 2 dry tons/acre/year, report biosolids nitrogen results. Plant Available Nitrogen (PAN) in pounds/acre, crop nitrogen requirement, available nitrogen in the soil prior to biosolids application, and PAN calculations for each site.
 - (3) If the 4 Low Metals criteria is exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative loading which has been reached at each site.
 - (4) Report the method used for compliance with pathogen and vector attraction requirements.
 - (5) Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0105783

Owner: Dyno Nobel
Address: 2795 East Cottonwood Parkway, Salt Lake City UT 84121

Continuing Authority: Dyno Nobel, LOMO Plant
Address: 11025 Highway D, Louisiana MO 63353

Facility Name: Dyno Nobel, LOMO Plant
Facility Address: 11025 Highway D, Louisiana MO 63353

Legal Description: E ¼, SW ¼, Sec 21, T54N, R1W, Pike County
UTM Coordinates: X = 670531, Y = 4366585

Receiving Stream: Mississippi River P
First Classified Stream and ID: Mississippi River (P) (3699)
USGS Basin & Sub-watershed No.: 071100040702

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Dyno Nobel, LOMO plant manufactures nitric acid, ammonium nitrate and ammonium nitrate (prill). The facility's previous power source was produced by Hercules Inc. via coal fired boilers. These coal fired boilers were shut down in May 2011 and replaced with a Natural Gas boiler. Sanitary waste is treated by an Imhoff anaerobic treatment unit. Filter backwash from the water treatment plant is discharged to a lagoon for settling of solids. Outfall #001 is the discharge point of all wastewater generated by this facility. Outfall #008 is an internal monitoring point at the plant out weir box. See next page.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

March 2, 2012

Effective Date

Modification Date

Sara Parker Pauley, Director, Department of Natural Resources

March 1, 2017

Expiration Date

John Madras, Director, Water Protection Program

FACILITY DESCRIPTION (continued):

Legal responsibility for outfall #001 is shared as documented in the "Agreement for Responsibility for a Joint NPDES Permit" dated September 16, 1986. That document is a part of this permit's factsheet, see Appendix 1.

Outfall #001 – consists of the treated effluent from the Hercules Incorporated Missouri Chemical Works and untreated effluent from the Dyno Nobel LOMO manufacturing areas, cooling tower blowdown, boiler blowdown, and storm water. This entire complex was a single plant once, thus the reason for the shared outfall #001. Wastewater from the nitrogen products area is routed to an equalization lagoon where pH is adjusted before being discharged to outfall 001. Hercules Inc MCW Plant operates outfalls #002, #003, #005, #006 and 007.

The average flow is 0.8 MGD.

Design flow is 3.6 MGD.

| | |
|---------------------------------|---|
| Legal Description: | E ¼, SW ¼, Sec 21, T54N, R1W, Pike County |
| UTM Coordinates | X = 670531, Y = 4366585 |
| Receiving Stream | Mississippi River |
| First Classified Stream and ID: | Mississippi River (P) (3699) |
| USGS Basin & Sub-watershed No.: | 071100040702 |

Outfall 002 – Imhoff Unit- Discharges treated sanitary effluent. The Average flow is 0.041 MGD.

Design flow is 0.163 MGD.

| | |
|---------------------------------|--|
| Legal Description: | NW ¼, SE ¼, Sec 20, T54N, R1W, Pike County |
| UTM Coordinates: | X = 669660, Y = 4367029 |
| Receiving Stream | Mississippi River |
| First Classified Stream and ID: | Mississippi River (P) (3699) |
| USGS Basin & Sub-watershed No.: | 071100040702 |

Outfall 003 – Discharges treated filter backwash from the water treatment plant. The flow is 0.424 MGD.

Design flow is 0.967 MGD.

| | |
|---------------------------------|--|
| Legal Description: | SW ¼, NW ¼, Sec 28, T54N, R1W, Pike County |
| UTM Coordinates: | X = 670286, Y = 4365716 |
| Receiving Stream: | Buffalo Creek |
| First Classified Stream and ID: | Buffalo Creek (P) (0014) |
| USGS Basin & Sub-watershed No.: | 071100040702 |

Outfall # 004 This outfall has been closed as noted in the previous permit.

Outfall # 008 Internal Monitoring Point at the plant out weir box.

| | |
|---------------------------------|--------------------------------------|
| Legal Description: | SW ¼, Sec 21, T54N, R1W, Pike County |
| UTM Coordinates | X = 670195, Y = 4366408 |
| Receiving Stream | Mississippi River |
| First Classified Stream and ID: | Mississippi River (P) (3699) |
| USGS Basin & Sub-watershed No.: | 071100040702 |

| | | | | | PAGE NUMBER 3 of 10 | |
|--|------------|----------------------------|----------------|-----------------|--------------------------------|-----------------|
| A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS | | | | | PERMIT NUMBER MO-0105783 | |
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below: | | | | | | |
| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #001</u> | | | | | | |
| Flow | MGD | * | | * | once/weekday | 24 hr. estimate |
| Biochemical Oxygen Demand ₅ | lbs/day | * | | * | once/week | 24 hr. comp.*** |
| Biochemical Oxygen Demand ₅ | mg/L | * | | * | once/week | 24 hr. comp.*** |
| Total Suspended Solids | lbs/day | 1,096 | | 345 | once/week | 24 hr. comp.*** |
| Total Suspended Solids | mg/L | * | | * | once/week | 24 hr. comp.*** |
| pH – Units | SU | ** | | ** | continuous | |
| Ammonia as N | lbs/day | 447 | | 148 | once/week | 24 hr. comp.*** |
| Ammonia as N | mg/L | * | | * | once/week | 24 hr. comp.*** |
| Nitrate as N | lbs/day | 893 | | 341 | once/week | 24 hr. comp.*** |
| Oil and Grease | mg/L | 15 | | 10 | once/week | grab |
| Sulfate | mg/L | * | | * | once/month | grab |
| Aluminum, Total Recoverable | µg/L | * | | * | once/quarter**** | grab |
| Barium, Total Recoverable | µg/L | * | | * | once/quarter**** | grab |
| Iron, Total Recoverable | µg/L | * | | * | once/quarter**** | grab |
| Delta BHC | µg/L | * | | * | once/quarter**** | grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>July 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS. | | | | | | |
| Whole Effluent Toxicity (WET) test | % Survival | See Special Conditions | | | Twice/year 24 hr. composite*** | |
| MONITORING REPORTS SHALL BE SUBMITTED <u>JULY 28TH AND JANUARY 28TH</u> ; THE FIRST REPORT IS DUE <u>July 28, 2012</u> . | | | | | | |
| B. STANDARD CONDITIONS | | | | | | |
| IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN. | | | | | | |

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PAGE NUMBER 4 of 10

PERMIT NUMBER MO-0105783

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
|---|-------|----------------------------|-------------------|--------------------|----------------------------|----------------|
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #001</u> | | | | | | |
| Flow (Effluent) | cfs | * | | | once/day | grab |
| Flow (Stream) (Note 1) | cfs | * | | | once/day | grab |
| Temperature (Stream) (Note 2) | °F | * | | | once/day | grab |
| Temperature (Effluent) | °F | * | | | once/day | grab |
| ΔT (Note 3) | °F | 5°F | | 5°F | once/day | grab |
| T _{cap} (Note 4) (Zone A) | °F | | | | once/day | grab |
| January | | 45 | | 45 | | |
| February | | 45 | | 45 | | |
| March | | 57 | | 57 | | |
| April | | 68 | | 68 | | |
| May | | 78 | | 78 | | |
| June | | 86 | | 86 | | |
| July | | 88 | | 88 | | |
| August | | 88 | | 88 | | |
| September | | 86 | | 86 | | |
| October | | 75 | | 75 | | |
| November | | 65 | | 65 | | |
| December | | 52 | | 52 | | |
| T _{max} (Note 4) (Zone A) | °F | | | | once/day | grab |
| January | | 48 | | 48 | | |
| February | | 48 | | 48 | | |
| March | | 60 | | 60 | | |
| April | | 71 | | 71 | | |
| May | | 81 | | 81 | | |
| June | | 89 | | 89 | | |
| July | | 91 | | 91 | | |
| August | | 91 | | 91 | | |
| September | | 86 | | 86 | | |
| October | | 78 | | 78 | | |
| November | | 68 | | 68 | | |
| December | | 55 | | 55 | | |

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE April 28, 2012. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

| A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS | | | | | PAGE NUMBER 5 of 10 | |
|--|-----------|----------------------------|----------------|-----------------|--------------------------|------------------|
| | | | | | PERMIT NUMBER MO-0105783 | |
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below: | | | | | | |
| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #002</u> | | | | | | |
| Flow | MGD | * | | * | once/weekday | 24 hr. estimate |
| Biochemical Oxygen Demand ₅ | mg/L | | 45 | 30 | once/month | 24 hr. comp.**** |
| Total Suspended Solids | mg/L | | 45 | 30 | once/month | 24 hr. comp.**** |
| pH – Units | SU | *** | | *** | once/month | grab |
| <i>E. coli</i> (Note 1) | #/ 100 mL | 630 | | 126 | once/week | grab |
| Ammonia as N | mg/L | * | | * | once/quarter***** | grab |
| Oil and Grease | mg/L | 15 | | 10 | once/month | grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>July 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS. | | | | | | |
| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #003</u> | | | | | | |
| Flow | MGD | * | | * | once/weekday | 24 hr. estimate |
| Settleable Solids | mL/L/hr | 1.0 | | 1.0 | once/month | grab |
| pH-Units | SU | *** | | *** | once/month | grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>May 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS. | | | | | | |
| B. STANDARD CONDITIONS | | | | | | |
| IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN. | | | | | | |

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units. Since continuous monitoring of pH is required, the total time during which pH values are outside of the required range shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursion shall exceed 60 minutes at outfall 001 in accordance with 40 CFR §401.17.

*** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5 – 9.0.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

**** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.

***** Sample once per quarter in the months of March, June, September, and December. See table below for quarterly sampling.

| Sample discharge at least once for the months of: | Report is due: |
|---|----------------|
| January, February, March (1st Quarter) | April 28 |
| April, May, June (2nd Quarter) | July 28 |
| July, August, September (3rd Quarter) | October 28 |
| October, November, December (4th Quarter) | January 28 |

Note 1: Stream flow. Stream flow is the daily flow of the receiving stream – intake flow.

Note 2: Temperature (Stream). It is recommended that if the Intake structure does not adequately provide a temperature of the receiving stream, then the facility should use the receiving stream's ambient temperature.

Note 3: $\Delta T = [((Q_r/4)T_s + Q_e T_e) / ((Q_r/4) + Q_e)] - T_s$

Where:

$Q_r/4$: is the daily receiving stream's mixing zone flow in cfs minus the Intake flow in cfs.

Q_e : is the effluent's flow in cfs.

T_s : is the stream's temperature (ambient/intake temperature).

T_e : is the effluent's temperature.

ΔT : is the amount in T°F that the facility is causing the receiving stream's temperature to rise at the end of the regulatory mixing zone.

Note 4: Temperature Cap is the temperature of the receiving stream at the end of the regulatory mixing zone (if applicable). It is designated with $[T_{cap}]$ in the equation below.

$$T_{cap} = [((Q_r/4)T_s + Q_e T_e) / ((Q_r/4) + Q_e)]$$

Where:

$Q_r/4$ = Daily receiving stream's flow divided by 4 (Mixing Consideration) in cfs minus the Intake flow in cfs.

T_s = Daily receiving stream's temperature. This can be the actual ambient temperature of the receiving stream or the intake water temperature (both in °F).

Q_e = Daily effluent flow or intake flow.

T_e = Daily effluent temperature in °F.

- If the T_{cap} calculated temperature value is less than the specific month's Daily Maximum or Monthly Average T_{cap} , the permittee is to report the calculated temperature value as T_{cap} and report a "No Discharge" for T_{max} .
- If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} limit, but is below the T_{max} and there is time available in Percent Deviation Allowance (see Note 6); then the permittee is to report in accordance with Note 5 below.
- If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} limit but is below the T_{max} , but there is no time available in Percent Deviation Allowance (see Note 6); then the permittee is to report the calculated temperature value as T_{cap} and report a "No Discharge" for T_{max} .
- If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} and T_{max} ; then the permittee is to report in accordance with Note 5.

Note 5: Temperature Maximum is the maximum that a facility can increase the temperature of the receiving stream by at the end of the regulatory mixing zone (if applicable). It is designated with the $[T_{max}]$ in the equation below and is the T_{cap} monthly limit plus three (+3°F).

$$T_{max} = [((Q_r/4)T_s + Q_e T_e) / ((Q_r/4) + Q_e)]$$

Where:

$Q_r/4$ = Daily receiving stream's flow divided by 4 (Mixing Consideration) in cfs minus the Intake flow in cfs.

T_s = Daily receiving stream's temperature. This can be the actual ambient temperature of the receiving stream or the intake water temperature (both in °F).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Q_e = Daily effluent flow or intake flow.

T_e = Daily effluent temperature in °F.

- (a) If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} limit, but is below the T_{max} and there is time available in Percent Deviation Allowance (see Note 6); then the permittee is to report the calculated temperature value as T_{max} and report a "No Discharge" for T_{cap} .
- (b) If the T_{cap} calculated result is greater than the specific month's Daily Maximum and/or Monthly Average T_{cap} and T_{max} ; then the permittee is to report the calculated temperature value as T_{max} and report a "No Discharge" for T_{cap} .

Note 6 – Missouri's Water Quality Standards allows permittees to exceed their applicable criteria for 1% of the year in Zone A in the Mississippi River. Percent Deviation Allowance shall be tracked in hours per year (please see Special Condition 6 – Percent Deviation Allowance).

C. SPECIAL CONDITIONS

- 1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
- 2. All outfalls must be clearly marked in the field.
- 3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
- 4. Water Quality Standards
 - (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

C. SPECIAL CONDITIONS (continued)

5. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

6. Report as no-discharge when a discharge does not occur during the report period.

7. Percent Deviation Allowance

Site-specific temperature criteria for the thermal discharges to the Mississippi River allow the permittee to exceed their applicable temperature criteria for 1% of the year for Zone A. This facility discharges to Zone A of the Mississippi River. Therefore, the permittee is authorized to exceed their Temperature Cap effluent limitation for 88 hours in one (1) calendar year. However, the permittee is not authorized to exceed their Temperature Max limitation at any time.

- (1) The permittee shall document the time in hours to the nearest minute that their calculated temperature values exceeded a specific month's Daily Maximum T_{cap} effluent limit. This time is to be subtracted from 88 hours to the nearest minute.
- (2) The permittee shall submit an annual report on January 28th of each year that includes the number of hours that the facility exceeded their Temperature Cap effluent limits for each month during the previous calendar year.
- (3) If the permittee exceeds their maximum allowed Percent Deviation Allowance of 88 hours prior to the end of the calendar year, then the permittee shall submit a Maximum Percent Deviation Exceeded Report to the Northeast Regional Office within 15 days of notice.
- (4) Percent Deviation Allowance is not applicable to the permit parameter of Temperature Maximum.

8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.

9. The permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be kept on-site. The SWPPP must be reviewed and updated, if needed, every year or as site conditions change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document:

Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators, (Document number EPA 833-B-09-002) published by the United States Environmental Protection Agency (USEPA) in February 2009.
The SWPPP must include the following:

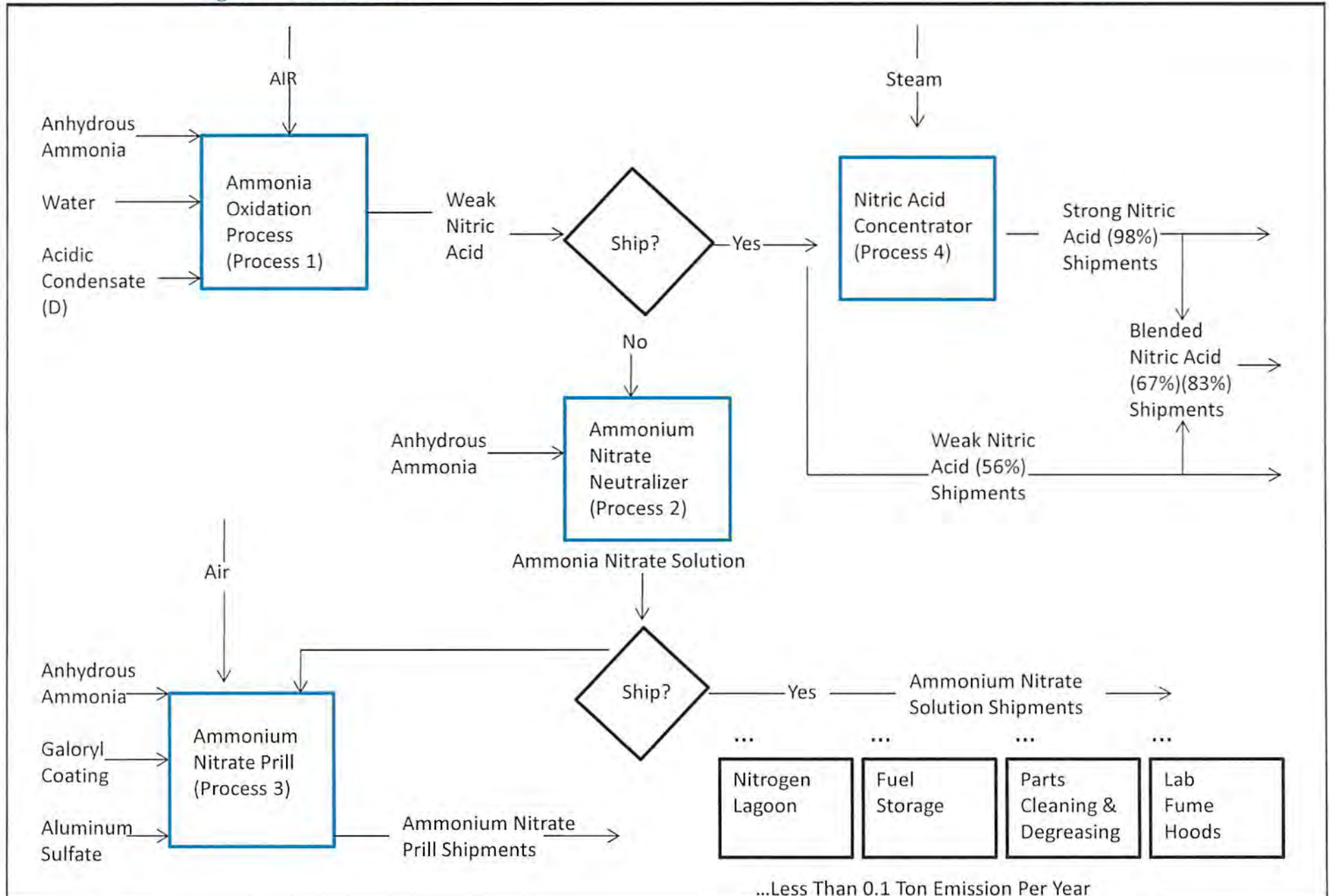
- (a) A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter storm water. Minimum BMPs are listed in SPECIAL CONDITIONS #10 below.
- (b) The SWPPP must include a schedule for once per month site inspections and brief written reports. These reports must be kept on file with the SWPPP at the facility. The inspections must include observation and evaluation of BMP effectiveness, noting any deficiencies. Deficiencies must be documented within 24 hours of discovery. Corrective action to address deficiencies must be documented within fourteen (14) days and shall be included with the written report. Any corrective measure that necessitates major construction may also need a construction permit. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to DNR personnel upon request.
- (c) A provision for designating an individual to be responsible for environmental matters.
- (d) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of DNR.

C. SPECIAL CONDITIONS (continued)

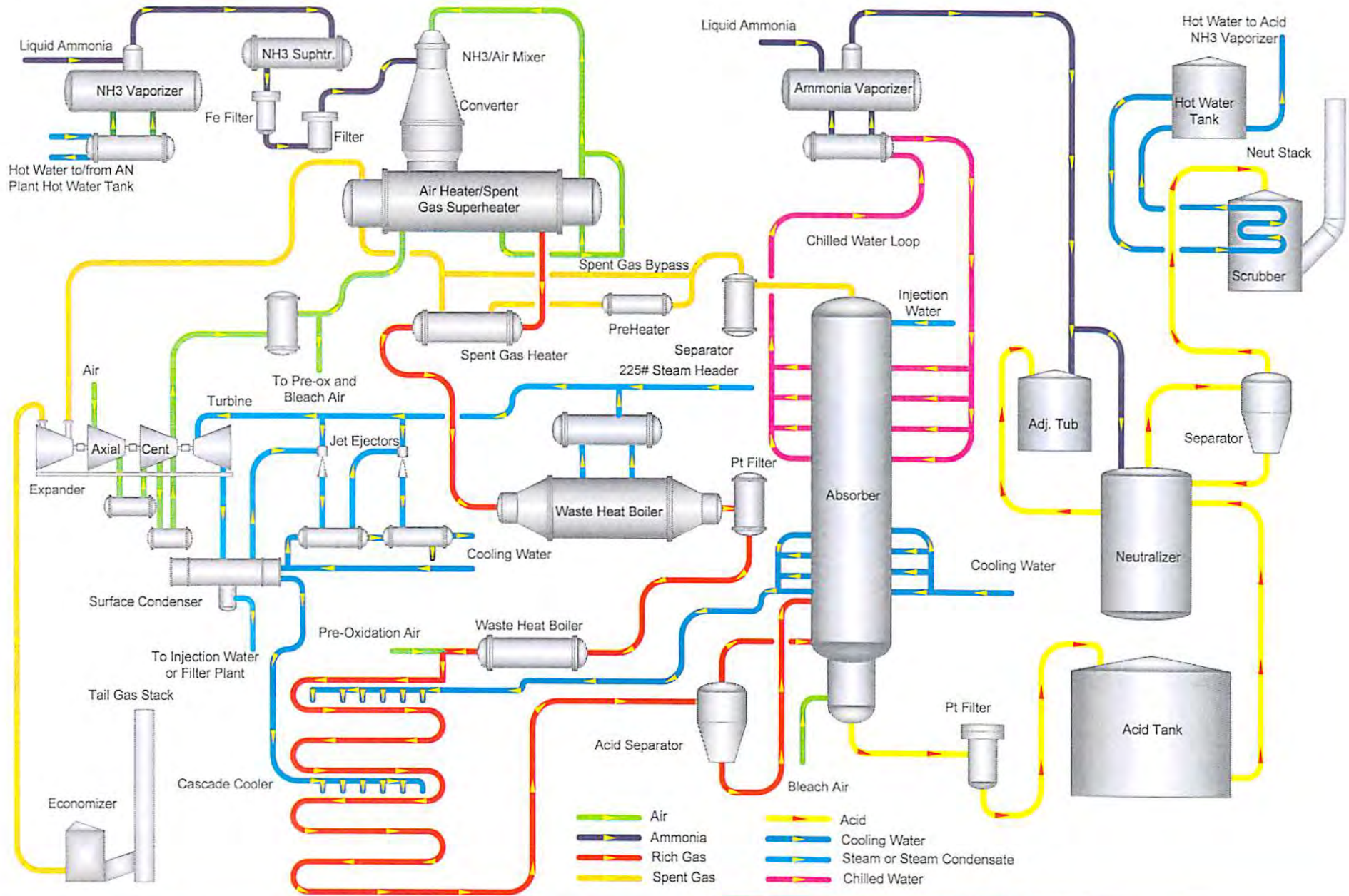
- (3) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
 - (4) If the effluent fails the test at outfall 001, a multiple dilution test shall be performed in conjunction with Ashland Hercules at outfall 001. The facilities shall test for BOTH species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met: Note: Written request regarding single species multiple dilution accelerated testing will be address by THE WATER PROTECTION PROGRAM on a case by case basis.
 - (i) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
 - (ii) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
 - (5) Follow-up tests do not negate an initial failed test.
 - (6) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
 - (7) Additionally, the following shall apply upon failure of the third follow up MULTIPLE DILUTION test The permittee should contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact THE WATER PROTECTION PROGRAM upon the third follow up test failure, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of the automatic trigger or DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
 - (8) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
 - (9) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
 - (10) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.
 - (11) Submit a concise summary in tabular format of all WET test results with the annual report.
- (b) Test Conditions
- (1) Test Type: Acute Static non-renewal
 - (2) All tests, including repeat tests for previous failures, shall include both test species listed below unless approved by the department on a case by case basis.
 - (3) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
 - (4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.
 - (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
 - (6) Tests will be run with 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent, and reconstituted water.
 - (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
 - (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.
 - (9) Whole-effluent-toxicity test shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms

Figure 1: Overall Process

Plant No. 0031



LOMO Plant



DYNO
Dyno Nobel

Groundbreaking Performance

Dyno Nobel, Inc.
2014 Plant Operations Report
LOMO Facility

| | January | February | March | April | May | June | July | August | September | Total | |
|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|---------|
| 56% Nitric Acid | 26,142 | 24,476 | 26,185 | 24,412 | 21,748 | 24,623 | 21,889 | 22,499 | 24,191 | 288,483 | 216,165 |
| 67% Nitric Acid | 1,494 | 1,027 | 1,135 | 1,505 | 2,017 | 1,893 | 1,756 | 1,937 | 1,250 | 19,180 | 14,013 |
| 83% Nitric Acid | 35 | 19 | - | 38 | - | 19 | 19 | - | 43 | 231 | 173 |
| Total Blended Acid | 1,529 | 1,046 | 1,135 | 1,543 | 2,017 | 1,912 | 1,775 | 1,937 | 1,293 | 19,411 | 14,186 |
| 98% Nitric Acid | 2,184 | 2,312 | 1,997 | 2,461 | 1,925 | 2,070 | 1,340 | 1,898 | 1,831 | 23,291 | 18,017 |
| Weak AN Solution | 27,108 | 26,533 | 28,902 | 25,759 | 21,646 | 26,339 | 23,095 | 22,137 | 28,169 | 304,673 | 229,688 |
| Strong AN Solution | 7,575 | 6,448 | 8,429 | 12,987 | 9,214 | 9,802 | 8,278 | 8,634 | 11,441 | 101,865 | 82,809 |
| AN Prill | 21,792 | 16,621 | 19,664 | 16,000 | 13,036 | 15,674 | 13,636 | 14,780 | 16,602 | 203,009 | 147,806 |
| AN Prill Totes | - | - | - | - | - | - | - | - | - | - | - |
| AN Fines | 400 | 600 | 300 | 500 | 300 | 400 | 300 | 550.000 | 300 | 4,875 | 3,650 |
| Ammonia Purchases | 13,301 | 13,214 | 13,914 | 13,154 | 10,610 | 12,825 | 11,416 | 11,526 | 12,800 | 150,597 | |
| \$/Ton | 393 | 394 | 392 | 417 | 452 | 454 | 429 | 418 | 432 | 415 | |
| Total \$ | 5,232,750 | 5,205,795 | 5,457,953 | 5,487,067 | 4,797,066 | 5,817,496 | 4,901,771 | 4,822,642 | 5,528,123 | 62,465,673 | |
| Natural Gas (MMBtu's) | 3,886 | 12,913 | 12,521 | 9,485 | 4,790 | 7,622 | 4,516 | 7,512 | 6,831 | 84,388 | 70,076 |
| \$/MMBtu | 6.116 | 6.867 | 8.292 | 7.747 | 7.197 | 7.009 | 7.946 | 6.478 | 6.086 | 7.042 | |
| Total \$ | 23,768 | 88,673 | 103,821 | 73,480 | 34,474 | 53,423 | 35,883 | 48,665 | 41,574 | 594,249 | |

Dyno Nobel, Inc.
2015 Actual Plant Operations Report
LOMO Facility

| Reporting Month | 1 October | 2 November | 3 December | 4 January | 5 February | 6 March | 7 April | 8 May | 9 June | 10 July | 11 August | 12 September | Total |
|------------------------------|--------------|---------------|---------------|--------------|---------------|------------|------------|----------|-----------|------------|--------------|-----------------|--------------|
| Production | | | | | | | | | | | | | |
| 56% Acid (AC056) | 27,204 | 21,258 | 27,378 | - | - | - | - | - | - | - | - | - | 75,840 |
| 67% Acid (AC067) | 1,826 | 1,559 | 2,872 | - | - | - | - | - | - | - | - | - | 6,257 |
| 70% Acid (AC070) | 32 | - | - | - | - | - | - | - | - | - | - | - | 32 |
| 83% Acid (AC083) | - | 18 | 15 | - | - | - | - | - | - | - | - | - | 32 |
| Total Blended Acid | 1,859 | 1,577 | 2,887 | - | - | - | - | - | - | - | - | - | 6,322 |
| 98% Acid (AC098) | 1,624 | 1,704 | 2,284 | - | - | - | - | - | - | - | - | - | 5,612 |
| AN Solution (AN006) | 30,468 | 21,559 | 27,653 | - | - | - | - | - | - | - | - | - | 79,680 |
| AN Solution (AN005) | 39 | 101 | 120 | - | - | - | - | - | - | - | - | - | 261 |
| AN Prill (AN003DY) | 18,434 | 15,631 | 20,191 | - | - | - | - | - | - | - | - | - | 54,256 |
| AN Prill Totes (AN007DY) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AN Fines (AN004) | 200 | 600 | 200 | - | - | - | - | - | - | - | - | - | 1,000 |
| Ammonia Purchases | | | | | | | | | | | | | |
| \$/Ton | 14,532 | 10,717 | 13,989 | - | - | - | - | - | - | - | - | - | 39,237 |
| Total \$ | \$558,02 | \$588,04 | \$603,50 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$582,43 |
| | \$8,109,086 | \$6,301,947 | \$8,442,118 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$22,853,151 |
| Natural Gas (MMBtu's) | | | | | | | | | | | | | |
| \$/MMBtu | 5,985 | 4,212 | 15,511 | 9,433 | - | - | - | - | - | - | - | - | 35,141 |
| Total \$ | \$6,25 | \$6,91 | \$6,18 | \$6,45 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$6,35 |
| | \$37,428 | \$29,117 | \$95,882 | \$60,888 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$223,315 |



DYNO NOBEL INC.
11025 Highway D
Louisiana, Missouri
63353 USA
Telephone: 573-754-4501
Fax: 573-754-6525
www.dynonobel.com

LOMO Site located in Louisiana, MO

Chronological History:

1941 – U.S. Government announces site to be an ordinance works for the production of anhydrous ammonia. Hercules Powder Company designed, built, and operated the plant.

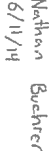
1950's – In addition to Hercules operation, the Bureau of Mines built and operated a coal to gas synthetic fuel facility.

1960's – Hercules took full ownership of the site and added a number of production units including the current Dyno Nobel nitric acid and ammonium nitrate processes.

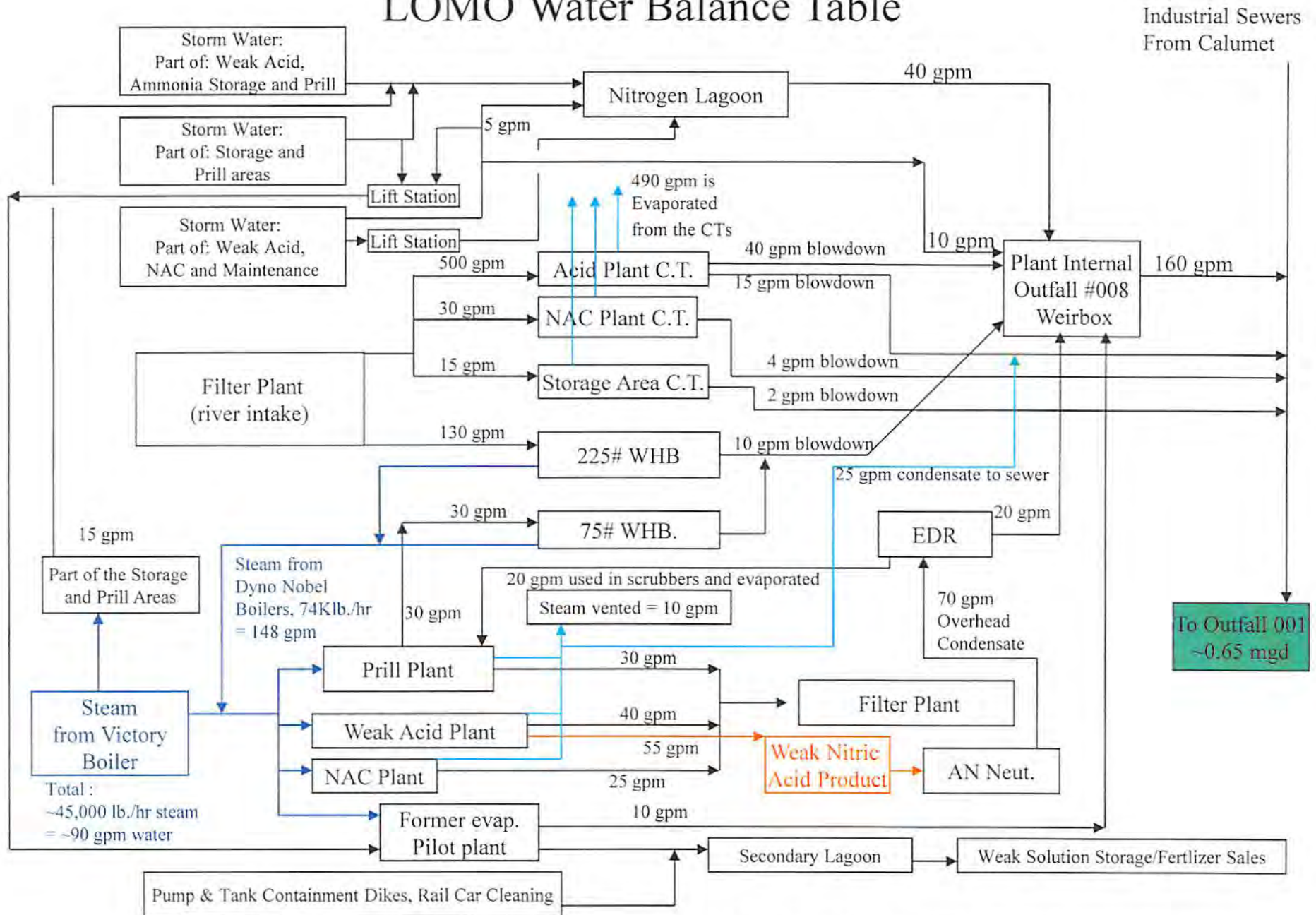
1966 – The current Dyno Nobel Nitric Acid Plant #3 was constructed and was the largest single train unit in the world.

1985 – The portion of the facility now known as LOMO was purchased by IRECO and operated independently from the Hercules operation.

1993 – IRECO's name was changed to Dyno Nobel, Inc. The facility currently produces various concentrations of nitric acid, ammonium nitrate prill, ammonium nitrate solution, and weak solution fertilizer.



LOMO Water Balance Table



All indicated flowrates are estimated average flowrates.



United States Environmental Protection Agency
Washington, D. C. 20460

Form approved.
OBM No. 2040-0057
Approval Expires 8-31-98

Water Compliance Inspection Report

Section A: National Data System Coding (i.e., CS)

| | | | | | |
|--|--|------------------------|-----------------|-------------------------------------|-------------|
| Inspection Code | NPDES | YY/MM/DD | Inspection type | Inspector | Face Type |
| 1 <u>N</u> 2 <u>1</u> 3 <u>M00110157813</u> 11 | | 12 <u>115103109</u> 17 | 18 <u>5</u> | 19 <u>12</u> | 20 <u>2</u> |
| Remarks | | | | | |
| 21 | | | | | 66 |
| Inspection Work Days | Facility Self-Monitoring Evaluation Rating | B1 | QA | Reserved | |
| 67 <u>1</u> 69 | 70 <u>2</u> | 71 <u>N</u> | 72 <u>N</u> | 73 <u>1</u> 74 <u>1</u> 75 <u>1</u> | 80 |

Section B: Facility Data

| | | |
|--|--|------------------------|
| Name and location of Facility Inspected (For industrial users discharging to POTW, also provide POTW Name and NPDES permit number) | Entry Time/date | Permit effective Date |
| <u>Dyno Nobel</u> <u>11025 Highway A</u> <u>Louisiana, MO 63353</u> | <u>~ 11:30 03/09/15</u> | <u>03/02/2012</u> |
| Person(s) On-site Representative(s)/ Title(s)/phones and Fax Number(s) | Exit Time/ date | Permit expiration Date |
| <u>Brian Gregory, Environmental Coordinator 573-754-4501</u> | <u>~ 13:30 03/12/15</u> | <u>03/01/2017</u> |
| Name address of Responsible official/ title/Phone/Fax Number | Other Facility dates | |
| <u>Sam Correnti, Plant Manager 573-754-4501</u> | <u>Permit modified November 5, 2014.</u> | |
| Contacted <input checked="" type="checkbox"/> yes <input type="checkbox"/> No | | |

Section C: Areas Evaluated during Inspection (Check only those areas evaluated)

| | | | |
|---|---|--|---|
| <input checked="" type="checkbox"/> Permit | <input checked="" type="checkbox"/> Flow Measurement | <input checked="" type="checkbox"/> Operations & Maintenance | <input type="checkbox"/> CSO/SSO (Sewer overflow) |
| <input checked="" type="checkbox"/> Records/ Reports | <input checked="" type="checkbox"/> Self-Monitoring Program | <input type="checkbox"/> Sludge Handling/Disposal | <input type="checkbox"/> Pollution Prevention |
| <input checked="" type="checkbox"/> Facility site Review | <input type="checkbox"/> Compliance Schedules | <input type="checkbox"/> Pretreatment | <input type="checkbox"/> Multimedia |
| <input checked="" type="checkbox"/> Effluent/Receiving Waters | <input checked="" type="checkbox"/> Laboratory | <input checked="" type="checkbox"/> Storm Water | <input type="checkbox"/> Other |

Section D: Summary of Findings/ Comments (Attach additional sheets of narrative and checklists as necessary)

- 1) Past permit exceedances.
- 2) Improper analytical test procedures.
- 3) Improper record keeping
- 4) Storm water inspection reports w/out corrective action dates.
- 5) Spillage of industrial material around facility grounds.

| | | |
|--|---|-------------------|
| Name(s) and signature(s) of Inspector(s) | Agency/ Office/ Phone and Fax Numbers | Date |
| <u>David Pratt</u> | <u>EPA R7 913-551-7552 913-551-9552</u> | <u>05/06/2015</u> |
| Signature of Management QA Reviewer | Agency/ Office/ Phone and Fax Numbers | Date |
| | | |

EPA form 3560-3(rev 5-08) Previous editions are obsolete

| | | |
|--|---|--------------------------------|
| Section F thru L: Complete on all in sections, as appropriate. N/A = Not Applicable | | Permit No. M00105783 |
| Section F: Facility and Permit Background | | |
| ADDRESS OF PERMITTEE IF DIFFERENT FROM FACILITY (Including City, County and ZIP code) Same | DATE OF LAST PREVIOUS INVESTIGATION BY EPA/STATE None located | |
| | | FINDINGS: NA |
| Section G: Records and Reports | | |
| RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A (further explanation attached <u>in report</u>) | | |
| (a) ADEQUATE RECORDS MAINTAINED OF: | | |
| (i) SAMPLING DATE, TIME, EXACT LOCATION | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (ii) ANALYSIS DATE, TIME | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (iii) INDIVIDUAL PERFORMING ANALYSIS | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (iv) ANALYTICAL METHODS/TECHNIQUES USED | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (v) ANALYTICAL RESULTS (e.g., consistent with self monitoring report data) | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (b) MONITORING RECORDS (e.g. flow, pH, DO, etc) MAINTAINED FOR A MINIMUM OF THREE YEARS INCLUDING ALL ORIGINAL STRIP CHART RECORDINGS (e.g. continuous monitoring instrumentation, calibration and maintenance records). | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (c) LABEQUIPMENT CALIBRATION AND MAINTENANCE RECORDS KEPT | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (d) FACILITY OPERATING RECORDS KEPT INCLUDING OPERATING LOGS FOR EACH TREATMENT UNIT | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (e) QUALITY ASSURANCE RECORDS KEPT | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (f) RECORDS MAINTAINED OF MAJOR CONTRIBUTING INDUSTRIES (and their compliance status) USING PUBLICALLY OWNED TREATMENT WORKS | <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A | |
| Section H: Permit Verification | | |
| INSPECTION OBSERVATION VERIFY THE PERMIT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A (further explanation attached <u>in report</u>) | | |
| (a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (b) FACILITY IS AS DESCRIBED IN PERMIT | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (c) PRINCIPAL PRODUCT(C) AND PRODUCTION RATE CONFORM WITH THOSE SET FORTH IN PERMIT APPLICATION | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <i>Didn't review</i> | |
| (d) TREATMENT PROCESSES ARE AS DESCRIBED IN PERMIT APPLICATION | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <i>Didn't review</i> | |
| (e) NOTIFICATION GIVEN TO EPA/STATE OF NEW, DIFFERENT OR INCREASED DISCHARGES | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (f) ACCURATE RECORDS OF RAW WATER VOLUME MAINTAINED | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (g) NUMBER AND LOCATION OF DISCHARGE POINTS ARE AS DESCRIBED IN PERMIT | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A <i>Some missing storm water.</i> | |
| (h) CORRECT NAME AND LOCATION OF RECEIVING WATERS | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (i) ALL DISCHARGES ARE PERMITTED | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <i>Facility has SWPPP.</i> | |
| Section I: Operation and Maintenance | | |
| (a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROVIDED. | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (b) ADEQUATE ALARM SYSTEM FOR POWER EQUIPMENT FAILURES AVAILABLE | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (c) REPORTS ON ALTERNATE SOURCE OF POWER SENT TO EPA/STATE AS REQUIRED BY PERMIT. | <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A | |
| (d) SLUDGE AND SOLIDS ADEQUATELY DISPOSED | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (e) ALL TREATMENT UNITS IN SERVICE | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A <i>Sludge drying bed not in use.</i> | |
| (f) CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATION AND MAINTENANCE PROBLEMS. | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (g) QUALIFIED OPERATING STAFF PROVIDED | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (h) ESTABLISHED PROCEDURES AVAILABLE FOR TRAINING NEW OPERATORS | <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <i>Didn't check.</i> | |
| (i) FILES MAINTAINED ON SPARE PARTS INVENTORY, MAJOR EQUIPMENT SPECIFICATIONS, AND PARTS AND EQUIPMENT SUPPLIERS | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (j) INSTRUCTION FILES KEPT FOR OPERATION AND MAINTENANCE OF EACH ITEM OF MAJOR EQUIPMENT | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (k) OPERATION AND MAINTENANCE MANUAL MAINTAINED. | <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A | |
| (l) SPCC PLAN AVAILABLE | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A | |

Section J : Compliance Schedules

PERMITTEE IS MEETING COMPLIANCE SCHEDULE

☐ YES ☐ NO ☒ N/A (Further explanation attached)

CHECK APPROPRIATE PHASE(S)

- (A) ☐ THE PERMITTEE HAS OBTAINED THE NECESSARY APPROVALS FROM THE APPROPRIATE AUTHORITIES TO BEGIN CONSTRUCTION.
- (B) ☐ PROPER AGREEMENT HAS BEEN MADE FOR FINANCING (mortgagee commitments, grants, etc.)
- (C) ☐ CONTRACTS FOR ENGINEERING SERVICES HAVE BEEN EXECUTED.
- (D) ☐ DESIGN PLANS AND SPECIFICATION HAVE BEEN COMPLETED.
- (E) ☐ CONSTRUCTION HAS COMMENCED.
- (F) ☐ CONSTRUCTION AND/OR EQUIPMENT ACQUISITION IS ON SCHEDULE.
- (G) ☐ CONSTRUCTION HAS BEEN COMPLETED
- (H) ☐ START UP HAS COMMENCED.
- (I) ☐ THE PERMITTEE HAS REQUESTED AND EXTENSION OF TIME.

Section K: Self Monitoring Program

Part 1 – Flow measurement (further explanation attached in report.)

PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.

☐ YES ☒ NO ☐ N/A

Details:

(a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED.

☒ YES ☐ NO ☐ N/ATYPE OF DEVICE: ☒ WEIR ☐ PARSHALL FLUME ☐ MAGMETER ☐ VENTURI METER ☐ OTHER (specify)(b) CALIBRATION FREQUENCY ADEQUATE. (date of last calibration none)☐ YES ☒ NO ☐ N/A

(c) primary FLOW measuring device properly OPERATED AND MAINTAINED

☒ YES ☐ NO ☐ N/A

(d) SECONDARY INSTRUMENTS (totalizers, recorders, etc.) PROPERLY OPERATED AND MAINTAINED

☐ YES ☒ NO ☐ N/A(e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES. Appears to be.☒ YES ☐ NO ☐ N/APart 2 – Sampling (further explanation attached in report.)

PERMITTEE SAMPLING MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.

☐ YES ☒ NO ☐ N/A

Details:

(a) LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.

☒ YES ☐ NO ☐ N/A

(b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT.

☒ YES ☐ NO ☐ N/A

(c) PERMITTEE IS USING METHODS OF SAMPLING AGREE WITH PERMIT

☒ YES ☐ NO ☐ N/AIF NO: ☐ GRAB ☐ MANUAL COMPOSITE ☐ AUTOMATIC COMPOSITE (FREQUENCY)

(d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE.

☐ YES ☒ NO ☐ N/A

(I) SAMPLES REFRIGERATED DURING COMPOSITION

☒ YES ☐ NO ☐ N/A

(II) PROPER PRESERVATION TECHNIQUES USED

☒ YES ☐ NO ☐ N/A

(III) FLOW PROPORTIONED SAMPLES OBTAINED WHERE REQUIRED BY PERMIT

☐ YES ☐ NO ☒ N/A(IV) SAMPLES HOLDING TIMES PRIOR TO ANALYSIS IN CONFORMANCE WITH 40 CFR 136.3 120☐ YES ☒ NO ☐ N/A

(e) MONITORING AND ANALYSIS BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT

☐ YES ☒ NO ☐ N/A

(f) IF (e) IS YES, RESULTS ARE REPORTED IN PERMITTEE'S SELF MONITORING REPORT.

☐ YES ☐ NO ☒ N/APart 3 – Laboratory (further explanation attached in report.)

PERMITTEE LABORATORY PROCEDURES MEET THE REQUIREMENTS AND INTENT OF THE PERMIT.

☐ YES ☒ NO ☐ N/A

Details:

(a) EPA approved analytical testing procedures used. (40CFR 136.3) but methods have been modified.☒ YES ☐ NO ☐ N/A

(B) IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED.

☐ YES ☐ NO ☒ N/A

(C) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED

☒ YES ☐ NO ☐ N/A

(D) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT.

☒ YES ☐ NO ☐ N/A

(E) QUALITY CONTROL PROCEDURES USED.

☐ YES ☒ NO ☐ N/A(F) DUPLICATE SAMPLES ARE ANALYZED. % OF TIME. Varies☐ YES ☐ NO ☐ N/A(G) SPIKED SAMPLES ARE USED. % OF TIME. Varies☐ YES ☐ NO ☐ N/A

(H) COMMERCIAL LABORATORY USED.

☒ YES ☐ NO ☐ N/A

(I) COMMERCIAL LABORATORY STATE CERTIFIED.

☐ YES ☐ NO ☒ N/ALAB NAME PDC Laboratories, IncLAB ADDRESS 3278 North Highway 67, Florissant, MO 63033

Section L: Effluent/ Receiving Water Observation (Further explanation attached report)

| OUTFALL NO. | OIL SHEEN | GREASE | TURBIDITY | VISIBLE FOAM | VISIBLE FLOAT SOL | COLOR | OTHER |
|-------------|-------------|-------------|-----------------|--------------|-------------------|---------------|-------------|
| <u>001</u> | <u>None</u> | <u>None</u> | <u>Slight</u> | <u>None</u> | <u>None</u> | <u>Clear</u> | <u>None</u> |
| <u>002</u> | <u>None</u> | <u>None</u> | <u>Moderate</u> | <u>None</u> | <u>None</u> | <u>Turbid</u> | <u>None</u> |
| <u>003</u> | <u>None</u> | <u>None</u> | <u>None</u> | <u>None</u> | <u>None</u> | <u>Clear</u> | <u>None</u> |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

(Section M and N Complete as Appropriate for Sampling Inspections)

Section M: Sampling Inspection Procedures and Observations (further explanation attached in report)

- (a) ☒ GRAB SAMPLES OBTAINED (e) ☒ SAMPLE SPLIT WITH PERMITTEE
 (b) ☒ COMPOSITE OBTAINED (f) ☒ CHAIN OF CUSTODY EMPLOYED
 (c) ☐ FLOW PROPORTIONED SAMPLE (g) ☐ SAMPLE OBTAINED FROM FACILITY SAMPLING DEVICE
 (d) ☒ AUTOMATIC SAMPLER USED

COMPOSITING FREQUENCY Every 30 minutes over 24 hrs PRESERVATION As neededSAMPLE REFRIGERATED DURING COMPOSITING: ☒ YES ☐ NO ☐ N/ASAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE Appears to be.

Section N: Collection System and Sanitary Sewer Overflow (SSOs)

Who is responsible for the collection system (name and phone number)?

Who answered the following Questions:

Dyno NobelWhat is your typical capital improvement budget for the collection system? \$ How many miles of sanitary sewer lines are in the collection system? milesHow many miles of sanitary sewer lines are cleaned in a typical year? milesWhat is the average age of the sanitary sewer lines? Old yearsAny Hydraulic and/or organic overloads experienced. ☒ YES ☐ NOANY BYPASSING SINCE LAST INPECTION. ☒ YES ☐ NO

How do you document responses to complaints for sewer back-ups, sewage leaks, overflows, etc.?

Over flow at plant reported to MONK.How many basement back-up complaints do you respond to in a year? NADo you have any discharges (SSOs) from the collection system? : ☐ YES ☒ NODo you report discharges (SSOs) to regulatory agency? : ☐ YES ☐ NO ☐ Copies

Describe the types of discharge:



NPDES Industrial Storm Water Worksheet (Industrial)

- Page 1 -

Background Information (complete in field)

| National Database Information | | General | |
|-------------------------------|-------------------------|----------------|--------------|
| Inspection Type | W | Inspector Name | David Pratt |
| NPDES ID Number | MO0105783 | Telephone | 913-551-7552 |
| Inspection Date | March 9-12, 2015 | Entry Time | ~ 11:30 |
| Inspector Type | EPA State EPA Oversight | Exit Time | ~ 13:30 |
| Facility Type | Chemical Manufacturer | Signature | David Pratt |

| Facility Location Information | |
|--------------------------------|--|
| Name/Location/ Mailing Address | Dyno Nobel, 11025 Highway D, Louisiana, MO 63353 |
| GPS Coordinates | Latitude 39.42605 Longitude -91.02238 |
| Receiving Water(s)/MS4's | Mississippi River & Buffalo Creek |

| Contact Information | | |
|------------------------|------------------|--------------|
| | Name | Telephone |
| Owner/Permittee | Dyno Nobel, Inc. | 573-754-4501 |
| Operator | " " " | |
| Co-Permittee | Name | |
| Facility Contact | Brian Gregory | 573-754-4501 |
| Authorized Official(s) | — | |

| Site Information: | |
|---------------------|--|
| Industrial Activity | Manufactures nitric acid, ammonium nitrate solution & prill. |
| SIC Code(s) | 2873 |

| Basic Permit Information (circle one) | | | Basic SWPPP Information | | |
|---------------------------------------|------------------------------------|---|--|------------------------------------|------------------------------------|
| Permit Coverage | <input checked="" type="radio"/> Y | <input type="radio"/> N | SWPPP on site | <input checked="" type="radio"/> Y | <input type="radio"/> N |
| Permit Type | General | <input checked="" type="radio"/> Individual | SWPPP Satisfactory* | <input type="radio"/> Y | <input checked="" type="radio"/> N |
| Copy of NOI on site? | <input checked="" type="radio"/> Y | <input type="radio"/> N | SWPPP Implementation Satisfactory | <input type="radio"/> Y | <input checked="" type="radio"/> N |
| NOI Date | June 9, 2014 | | *A Satisfactory SWPPP must be both current and complete (see pages 4, 5, and 6 of this checklist). | | |



NPDES Industrial Storm Water Worksheet (Industrial)

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SWPPP Implementation (complete in field)

| General | |
|-----------------------------|--|
| Industrial Activity | (describe principal product, production rate, potential pollutants, areas exposed to precipitation, direction of storm water flow) Facility manufactures nitric acid, ammonium nitrate liquid, and prilled ammonium nitrate. The facility is rated to produce 1,000 tons of nitric acid/day. Potential pollutants are pH, nitrogen, oil, and chemicals used onsite. Manufacturing area is exposed, but within production containers. Most storm water flows to east to one of two lift stations that send to a lined lagoon cell. |
| Facility Description | (describe age and size of facility, number of employees, hours of operation) Facility was originally built under different ownership in 1941 for production of anhydrous ammonia. Facility includes ~ 139 acres, but only ~ 39 acres are used for industrial activity. There are 80 employees working two production shifts seven days/wk. |

| Storm Water Controls | |
|--|--|
| List the structural and non-structural controls employed by the facility. | (provide a brief description of each) Chemical containment, concrete/asphalt, vegetated areas, gravel, lined holding pond for process and storm water, etc. |
| Are the controls reasonable and appropriate for the facility? | (indicate "yes" or "no", or if not appropriate, explain) Some erosion controls are needed. Spillage of ammonium nitrate and lime noted without proper mitigation. Some loading areas exposed with potential for spillage. |
| Are the controls installed correctly and maintained in effective operating condition? | (indicate "yes" or "no", or if not appropriate, explain) A larger container should be used to capture releases of prilled ammonium nitrate at the bulk storage concrete dome instead of the wheel barrel. More controls needed to reduce ammonia discharges, or upgrades to lined lagoon to better reduce ammonia. Could result in higher nitrates. |

SWPPP Implementation (continued)



NPDES Industrial Storm Water Worksheet (Industrial)

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Storm Water Controls (continued)

Provide a brief description of other controls that manage/prevent/minimize storm water runoff.

(e.g., erosion and sediment controls, exposure minimization, diversion structures, pollution prevention, inlet protection/control at storm drains)

Refer to inspection report for other measures.

Miscellaneous

Any evidence of discharge to receiving waters?

(e.g., storm water runoff, dry weather discharge, co-mingling of process waste water)

Process wastewater discharges were occurring through outfall 001. The water filtration plant was discharging through outfall 003. The wastewater treatment system was discharging through outfall 002. Some storm water runoff was occurring during one of the days.

Do the storm water outfalls on site correspond with those listed on the site map and in SWPPP?

(indicate "yes" or "no", or if not appropriate, explain)

There are at least three points of storm water runoff that do not travel to one of the 1st stations.

SWPPP Review (can be completed in office)



NPDES Industrial Storm Water Worksheet (Industrial)

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| General | | | Notes: |
|---|------------------------------------|------------------------------------|------------------------------------|
| Is there a SWPPP? | <input checked="" type="radio"/> Y | <input type="radio"/> N | |
| Is a copy of the SWPPP on site? | <input checked="" type="radio"/> Y | <input type="radio"/> N | |
| Did all "operators" and co-permittees sign the SWPPP? | <input type="radio"/> Y | <input checked="" type="radio"/> N | A signed version was not provided. |
| Did the signatures include the certification statement? | <input checked="" type="radio"/> Y | <input type="radio"/> N | But document not signed. |
| Were the signatories authorized to sign? | <input checked="" type="radio"/> Y | <input type="radio"/> N | Appear to be. |
| Is an individual/team responsible for developing/implementing SWPPP identified (e.g., pollution prevention team)? | <input checked="" type="radio"/> Y | <input type="radio"/> N | |
| Are employee training records regarding storm water pollution prevention topics included in SWPPP? | <input checked="" type="radio"/> Y | <input type="radio"/> N | |
| Operator evaluation of ESA requirements. | <input type="radio"/> Y | <input checked="" type="radio"/> N | |

| Site Map | | | Notes: |
|---|------------------------------------|------------------------------------|---|
| Is there a site map? | <input checked="" type="radio"/> Y | <input type="radio"/> N | |
| Drainage patterns/ outfalls? | <input checked="" type="radio"/> Y | <input type="radio"/> N | Drainage patterns not clearly documented. |
| Identification of types of pollutants likely to be discharged from each drainage area? | <input type="radio"/> Y | <input checked="" type="radio"/> N | Not on map. |
| Location of major structural controls used to reduce pollutants in runoff? | <input type="radio"/> Y | <input checked="" type="radio"/> N | |
| Name of receiving water(s) or MS4's listed? | <input type="radio"/> Y | <input checked="" type="radio"/> N | Not on map. |
| Is receiving water a tributary to waters of the U.S. (if "yes" indicate name of tributary)? | <input type="radio"/> Y | <input checked="" type="radio"/> N | |
| Location of significant materials exposed to storm water? | <input checked="" type="radio"/> Y | <input type="radio"/> N | Same, but details not provided. |
| Locations of major spills occurring within 3 years from date of NOI? | <input type="radio"/> Y | <input checked="" type="radio"/> N | |
| Location of fueling, maintenance, loading and unloading, material storage, waste disposal? | <input type="radio"/> Y | <input checked="" type="radio"/> N | |

SWPPP Review (continued)



NPDES Industrial Storm Water Worksheet (Industrial)

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| Summary of Potential Pollutant Sources | | Notes: |
|---|-------|--------|
| Description of activities, materials, features of site with potential to contribute significant amounts of pollutants to storm water? | (Y) N | |

| Significant Spills & Leaks | | Notes: |
|---|-------|--------|
| List of significant spills and leaks over 3 year time period, description of response taken, and actions to prevent similar spills in the future? | (Y) N | |

| Storm Water Controls | | Notes: |
|--|---------|---|
| Does the SWPPP describe the <i>non-structural</i> controls that will be used to prevent/reduce discharge of pollutants in storm water runoff? | (Y) N | |
| Does the SWPPP describe the <i>structural</i> controls that will be used to prevent/reduce discharge of pollutants in storm water runoff? | (Y) N | |
| Does the SWPPP describe other controls that will be used to prevent/reduce off-site tracking or blowing of sediment, dust and raw, final or waste materials, or other solid materials and floating debris? | (Y) (N) | Solid waste dumpsters are not required to be covered. |
| Does the SWPPP incorporate the 8 baseline controls (good housekeeping, minimizing exposure, PM, spill prevention/response procedures, routine inspections and comprehensive site evaluations, employee training, sediment and erosion control, runoff management)? | (Y) N | |
| Does the SWPPP contain completed routine inspection reports/logs regarding reportable implementation of 8 baseline controls? | Y (N) | Missing corrective action dates. |
| Does the SWPPP describe the pollutant or activity to be controlled by each selected control and provide an implementation schedule? | (Y) N | |

SWPPP Review (continued)



NPDES Industrial Storm Water Worksheet (Industrial)

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| Non-Storm Water Discharges | | Notes: |
|---|--|--------|
| Certification that facility has been tested for non-storm water discharges from the site? | <input checked="" type="radio"/> Y <input type="radio"/> N | |
| Description of testing method, drainage points, observed results, and date of test? | <input checked="" type="radio"/> Y <input type="radio"/> N | |

| Monitoring | Notes: |
|--|--|
| Are samples collected within 30 minutes of measurable weather events occurring 72 hours after previous measurable weather event? | Y <input checked="" type="radio"/> N <input type="radio"/> Not required. |

| Photograph Log |
|------------------------|
| 1. Refer to .kmz file. |
| 2. |
| 3. |
| 4. |
| 5. |
| 6. |
| 7. |
| 8. |
| 9. |
| 10. |
| 11. |
| 12. |
| 13. |
| 14. |
| 15. |
| 16. |
| 17. |
| 18. |

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
CONFIDENTIALITY NOTICE

| | |
|---|------------------------|
| Facility Name <i>Dyno Nobel</i> | |
| Facility Address <i>P.O. Box 450, 11025 Highway 0, Louisiana, MO 63353</i> | |
| Inspector (print) <i>David Pratt</i> | |
| U.S. EPA, Region VII, 901 N. 5th St., Kansas City, KS 66101 | Date <i>03/12/2015</i> |

The United States Environmental Protection Agency (EPA) is obligated, under the Freedom of Information Act, to release information collected during inspections to persons who submit requests for that information. The Freedom of Information Act does, however, have provisions that allow EPA to withhold certain confidential business information from public disclosure. To claim protection for information gathered during this inspection you must request that the information be held CONFIDENTIAL and substantiate your claim in writing by demonstrating that the information meets the requirements in 40 CFR 2, Subpart B. The following criteria in Subpart B must be met:

1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.
2. No statute specifically requires disclosure of the information.
3. Disclosure of the information would cause substantial harm to your company's competitive position.

Information that you claim confidential will be held as such pending a determination of applicability by EPA.

| | |
|---|---|
| I have received this Notice and <u>DO NOT</u> want to make a claim of confidentiality at this time. | |
| Facility Representative Provided Notice (print) <i>Bolan Gregory</i> | Signature/Date <i>Brian Aug 13/12/15</i> |

| | |
|--|----------------|
| I have received this Notice and <u>DO</u> want to make a claim of confidentiality. | |
| Facility Representative Provided Notice (print) | Signature/Date |

Information for which confidential treatment is requested:

REGION VII MULTIMEDIA SCREENING CHECKLIST

Facility Name: Dyno Nobel, Inc. Inspector: David Pratt
Facility Ownership: Dyno Nobel, Inc. Primary Media: Water
Street: 11025 Highway D Inspector Phone Ext.: 7552
City: Louisiana State: MO Zip: 63353 Date: 05/07/2015
Phone: 573-754-4501 Facility Contact: Brian Gregory SIC/NAICS Code: 2873
Number of Employees: ~80 Work Hours/Shifts: Two 12 hr shifts Facility Subject to OSHA regulations Yes ☒ No ☐
7 days/wk.

Main facility activity, major process chemical(s) & description: Facility manufactures nitric acid, ammonium nitrate
liquor, and prilled ammonium nitrate.

(Check all that apply): painting/coating (water-based ☐, solvent-based ☐) printing ☐, reacting ☒, formulating ☒, distilling ☐,
water treatment ☒, refrigeration ☐, manufacturing ☒, parts washers/degreasing (water-based ☒, halogenated-based ☐,
non-halogenated-based ☐) combustion (boiler, furnaces, oxidizers) ☒, plating (chrome ☐, other _____).

ENVIRONMENTAL JUSTICE (Note: Forward to EJ if a concern is identified during your inspection)

1. Is the facility located in an apparent low income area (e.g., with many abandoned and dilapidated properties)? No ☒ (stop) Yes ☐
If yes, is facility less than 1000 feet from nearest routinely occupied property (house, school, etc.)? No ☒ (stop) Yes ☐ Forward to EJ

EMERGENCY PLANNING & COMMUNITY RIGHT TO KNOW ACT (EPCRA) & TOXIC SUBSTANCE CONTROL ACT (TSCA)

1. Did facility file a Tier II report with fire department, Local & State Emergency Planning Committee? Yes ☒ No ☐ Forward to EPCRA
2. Did facility manufacture, import, or process (formulate, blend, package) >25,000 lbs of a chemical or >100 lbs of a Persistent Bioaccumulative Toxin (lead, mercury, or polycyclic aromatic compounds) at any time over the last 5 years? No ☐ (stop) Yes ☒ Forward to EPCRA
3. Has the facility: If any box in question 3 is marked - Forward to EPCRA
a. Stored ≥500 lbs of ammonia ☒, ≥100 lbs of chlorine ☐, or ≥10,000 lbs of an industrial chemical ☒ at any time over the last 2 years? ☒
b. Stored ≥10,000 lbs of pressurized flammable material (propane, methane, butane, pentane, etc.) at any time over the last 2 years? ☐
c. Used ≥10,000 lbs of ammonia ☒, chlorine ☐, halogenated solvents ☐, solvent-based paints ☐, or solvents ☐, or nitrated compound, over the last calendar year? ☒
d. Generated ≥ one half pound of metal dusts, fumes, or metal turnings, over the last calendar year? ☐
4. Does the facility have any oil filled electrical equipment No ☐ (stop) Yes ☒ Forward to TSCA and ask Has facility tested oil filled equipment to determine PCB content; No ☐ Yes ☒ number containing PCBs greater than 50 ppm 0 and percent of all equipment tested 100 Is equipment leaking (including wet or weeping equipment)? No ☒ Yes ☐ - Get Photo

CLEAN WATER ACT (CWA) - National Pollution Discharge Elimination System (NPDES), Industrial Pretreatment, Storm Water, & Wetlands

1. Does the facility discharge any wastewater to storm sewers, surface water, or the land? No ☐ (stop) Yes ☐
If yes, are all wastewater discharges permitted? Yes ☐ No ☐ Forward to CWA
2. Does the facility have process wastewaters that are discharged to a city POTW (Publicly Owned Treatment Works)? No ☐ (stop) Yes ☐
If yes, are the discharges permitted by: State? ☐, City? ☐ - If yes, Stop here. No ☐ Forward to CWA
If yes, does the city have a state or EPA approved pretreatment program? Yes ☐ No or Don't Know ☐ Forward to CWA
3. During rainfall events, can storm water carry pollutants from manufacturing, processing, storage, disposal, shipping and receiving areas, or from construction sites >1 acre, to storm sewers or surface water? No ☐ (stop) Yes ☐
If yes, does the facility have an NPDES permit for these storm water discharges? Yes ☐ No ☐ Forward to CWA
4. Did you see any wastewater discharges not identified by the facility? No ☐ (stop) Yes ☐ - Identify location, time, appearance of discharge:
(Get Photo) Forward to CWA
5. Does the facility have any wetland areas (e.g. streams, ponds, or temporarily wet areas)? No ☐ (stop) Yes ☒
If yes, have any wetland areas been dredged, filled, channelized, dammed, or had gravel removed from them within the last 5 years?
No ☐ (stop) Yes ☒ - Identify location and timeframe every four years (Get Photo) FWD to Wetlands
- brokenish pond dredged.

SAFE DRINKING WATER ACT (SDWA) - Underground Injection Control (UIC) & Public Water System (PWS)

1. Does facility discharge any liquids to the subsurface (septic systems, disposal wells, cesspools, etc.)? No ☐ (stop) Yes ☒ Forward to UIC
If yes, do these liquid wastes consist of sanitary wastewater only? Yes ☒ No ☐
2. Does facility provide drinking water to 25 people or more from its own source (private well, pond, etc)? No ☒ (stop) Yes ☐ Forward to PWS
If yes, does the facility test or monitor its drinking water in order to comply with state regulations? Yes ☐ No ☐

CLEAN AIR ACT (CAA) and CFCs

1. Do you see any dense, non-steam, smoke or dust emissions leaving the facility property? No ☐ Yes ☒ Forward to CAA
Source: Boiler, ammonia oxidation process, nitric acid storage, grill tower & dryers, etc (Get Photo) *Full list w/ inspection records*
2. Does the facility have any new air pollution emitting equipment that was constructed or installed in the past 5 years? No ☐ (stop) Yes ☒
If yes, is equipment permitted? Yes ☒ No ☐ Forward to CAA Describe: Boiler
3. Does the facility have any cooling units that contain >50 lbs of refrigerant? No ☒ (stop) Yes ☐ Forward to CFC
If yes, are these units: Self-serviced? ☐ Contract Serviced? ☐ - Service Company: _____
4. Does the facility have a refrigeration process that contains more than 10,000 lbs of ammonia? No ☒ (stop) Yes ☐ Forward to EPCRA/RMP
5. Does the facility service motor vehicle air conditioning systems? No ☒ (stop) Yes ☐ Forward to CFC

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) and UNDERGROUND STORAGE TANKS (UST)

1. Does the facility generate more than 30-gallons (220 lbs./100kg) of hazardous waste per month or at any one time? No ☐ (stop). Yes ☒
If yes, does facility have an EPA Hazardous Waste Identification Number? Yes ☒ (stop) No ☐ Forward to RCRA
2. Is hazardous waste treated ☐, stored >90-days ☐, burned ☐, land filled ☐, put in surface impoundments ☐ or waste piles ☐?
No ☒ (stop) Yes ☐ If yes, is the facility permitted for above described activity? Yes ☐ No ☐ Forward to RCRA
3. Did you see or does the facility have any large quantities of materials that the facility claims to be non-hazardous waste material (>10 drums, roll-offs, waste piles, etc. - exclude clean office trash, cardboard, & packaging type wastes)? No ☐ (stop) Yes ☒

Material Claimed To Be Non-Hazardous

Galaxy
Aluminum sulfate
Pill - ammonium nitrate

How does the facility know these wastes are non-hazardous?

Testing, industry or manuf. info., MSDS, etc. ☒; None available ☐ Forward to RCRA
Testing, industry or manuf. info., MSDS, etc. ☒; None available ☐ Forward to RCRA
Testing, industry or manuf. info., MSDS, etc. ☒; None available ☐ Forward to RCRA
Testing, industry or manuf. info., MSDS, etc. ☐; None available ☐ Forward to RCRA
Testing, industry or manuf. info., MSDS, etc. ☐; None available ☐ Forward to RCRA

4. Did you see any leaking hazardous waste containers, drums, or tanks? No ☒ Yes ☐ Forward to RCRA
Describe: _____ (Get Photo)
5. Did you see any signs of spills or releases (e.g., dead or stressed vegetation, stains, discoloration)? No ☒ Yes ☐ Forward to RCRA
Describe: _____ (Get Photo)
6. Did you see any chemical or waste handling practices that concern you (access to children/public)? No ☒ Yes ☐ Forward to RCRA & EPCRA Describe: _____ (Get Photo)
7. Does the facility have any past or present underground petroleum product or hazardous material tanks? No ☐ Yes ☒ Forward to UST *will be removed in April.*
8. Does the facility have any underground fuel tanks for emergency generators? No ☒ Yes ☐ Forward to UST

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN (SPCC)

1. Does the facility have any aboveground oil tanks (petroleum, synthetic, animal, fish, vegetable), with an aggregate volume >1,320 gallons?
No ☐ (stop) Yes ☒ - Does the facility have a certified SPCC Plan? Yes ☒ No ☐ Forward to SPCC
If yes, are there secondary containment systems for the tanks? Yes ☐ No ☒ Forward to SPCC *Galaxy!*
If yes, are any tanks leaking where oil could reach waters of the State or U.S.? No ☒ Yes ☐ (Get Photo) Forward to SPCC

ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS)

1. Does your facility have an EMS? No ☐ Yes ☒
2. Is the facility's EMS ISO 14001 certified? No ☒ Yes ☐

* PLEASE TAKE PHOTOS TO DOCUMENT POTENTIAL PROBLEMS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RECEIPT FOR DOCUMENTS AND SAMPLES

| |
|---|
| Facility Name <u>Dyno Nobel</u> |
| Facility Address <u>P.O. Box 450, 11025 Highway D, Louisiana, MO 63353</u> |

Documents Collected? YES X (list below) NO _____

Samples Collected? YES X (list below) NO _____ Split Samples: YES X NO _____

Documents/ Samples were: 1) Received no charge X 2) Borrowed _____ 3) Purchased _____

Amount Paid: \$ _____ Method: Cash _____ Voucher _____ To Be Billed _____

The documents and samples described below were collected in connection with the administration and enforcement of the applicable statute under which the information is obtained.

Receipt for the document(s) and/or sample(s) described below is hereby acknowledged:

| | |
|----------------------------|--|
| 1) OMRs | 16) Photographs. |
| 2) Contract lab reports. | 17) Three days composite and grab samples. |
| 3) Internal lab reports. | 18) Secondary containment drainage logs. |
| 4) SWPPP inspection logs. | 19) WET tests. |
| 5) Production rates | |
| 6) MSDSs | |
| 7) Spill release reports. | |
| 8) SWPPP | |
| 9) SPCC plan. | |
| 10) SPCC inspection logs. | |
| 11) Lab SOPs. | |
| 12) MONR correspondence. | |
| 13) SWPPP training logs. | |
| 14) Process flow diagrams. | |
| 15) Water balance. | |

| | |
|--|--|
| Facility Representative (print) <u>Brian Gregory</u> | Signature/Date <u>Brian Gregory</u> 3/12/15 |
| Inspector (print) <u>David Pratt</u> | Signature/Date <u>David Pratt</u> 03/12/15 |
| U.S. EPA, Region 7, 11201 Renner Blvd., Lenexa, KS 66219 | |

**Notice of Potential
National Pollutant Discharge Elimination System (NPDES)
PERMIT VIOLATIONS**

Permittee (facility) Name and Address:

Dyno Nabel, Inc
11025 Highway D
Louisiana, MO 63353

NPDES Permit Number:

M00105783

During the Clean Water Act § 308 compliance inspection conducted on March 9-12, 2015
the potential NPDES permit violations noted below were found. Additional violations may be brought to
your attention following a complete review of the inspection report and other available information.

POTENTIAL NPDES PERMIT VIOLATIONS

- 1) Past permit limit exceedances.
- 2) Some improper analytical test procedures implemented.
- 3) Improper recordkeeping on sample collection.
- 4) Storm water inspection reports do not address corrective actions taken.

REQUESTED ACTION: Within ten (10) days, please describe in writing any actions taken, or planned, to correct the potential violations identified above. Your response will be considered in the determination of the need for further administrative or legal action. Mail your description of corrective actions to your inspector at:

U.S. Environmental Protection Agency
ENSV/ENSV/ENSV
901 North 5th Street 300 Minnesota Avenue
Kansas City, Kansas 66101-2907

Inspector's printed name:

David Pratt

Inspector's signature:

David Pratt

Notice received by:

(name & title)

Brian Gregory, Environmental Coordinator

Date:

03/12/2015

Attachment 15 Page 1 of 1



DYNO
Dyno Nobel

Dyno Nobel Americas

Mr. David E. Pratt
Life Scientist
U.S. Environmental Protection Agency
ENST/EFCB
300 Minnesota Avenue
Kansas City, Kansas 66101-2907

DYNO NOBEL INC.
LOMO Plant
11025 Highway D
Louisiana, Missouri
63353 USA
Telephone: 573-754-4501
Fax: 573-754-6525
www.dynonobel.com

| | | | | | |
|-------------|---------|------------------|---|-----------------|------------------------|
| Date | 3/25/15 | Your ref. | Notice of Potential Permit Violations - Response | File no. | 2015 EPA Inspection |
|-------------|---------|------------------|---|-----------------|------------------------|

NPDES PERMIT MO-0105783
3.500 PIKE COUNTY
DYNO NOBEL INC/LOMO PLANT

Mr. Pratt:

In response to your Notice of Potential NPDES Permit Violations dated March 12, 2015 resulting from your inspection conducted March 9 thru 12, 2015, Dyno Nobel Inc. (Dyno) has prepared the following explanation, descriptions, or corrective actions as appropriate:

Item 1 of your notice; "*Past permit limit exceedances.*"

Response: Although there have been non-repeating monthly exceedances over the last three years, the item is specifically directed toward the ongoing ammonia discharge problem.

The facility received a permit modification in November 2014 which lowered the monthly average ammonia discharge from 148 pounds per day to 122 pounds per day. The plant has been in excess of the monthly average for ammonia since November. These exceedances have been reported to Missouri Department of Natural Resources (MDNR) with progress details in each report and the facility is in dialogue with MDNR on the status of the ammonia discharge. A task force to research the issue was formed and has met monthly. The source of the problem has been identified as lack

of nitrification during cooler weather causing a lower process discharge system water temperature and lower lagoon water temperature. Currently an initial air stripper design has been developed for evaluation as the long term solution. Other technologies may also be considered prior to final action. An attempt to heat the process water via steam lines prior to entry to the lagoon was found to be ineffective during February. The rerouting of two lines currently leading to the lagoon which are small known sources of ammonia is being evaluated as a potential short term solution until warm weather returns and a long term solution can be implemented.

Item 2 of your notice; *"Some improper analytical test procedures implemented."*

Response: As noted during your inspection of the site laboratory, reference methods being used are previous versions of the appropriate analytical method. The standard methods book referenced in Standard Operating Procedures is not the current version of the standard methods book. In particular; Total Suspended Solids (TSS) analysis has been updated significantly since implementation at the site lab. Dyno Nobel Inc. does not feel impact on compliance has occurred by this issue since the methods being used are previously accepted versions of appropriate methods. Also, the lab annually passes the EPA DMR-QA Study for laboratory quality assurance. All of the site lab Standard Operating Procedures used for NPDES samples will be updated with the current version of the appropriate analytical method as soon as practical but no later than performance of DMR-QA 35 in May.

Item 3 of your notice; *"Improper recordkeeping on sample collection."*

Response: Specifically the time of day was not being recorded for grab samples on the sample label or the sample data sheet. The time of day was not previously recorded for in-house analysis samples because the time is always coordinated with the initiation of the weekly composite sample which is time and date stamped. In-house analysis is performed on a same day basis so hold time limits have not been compromised. All samples going to external laboratories have always had date and time record provided on the sample label as well as the chain-of-custody/request-for-analysis form. Sample collection practice has been changed to reflect the date and time of day for each sample on the sample label and sample data sheet for in-house samples with form updates to be completed by March 31, 2015.

Item 4 of your notice; *"Storm water inspection reports do not address corrective actions taken."*

Past practice has been to report any issues identified during the monthly storm water inspection to the Environmental Coordinator who in turn arranged for corrective measures with operations or maintenance as appropriate. As soon as practical but no later than the April inspection, the inspection form will be updated to reflect date of correction for items previously cited.

If you have any questions regarding this information, please contact me at 573-754-4501 x 3007.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Regards



Samuel J. Correnti Jr.

Plant Manager

Phone: +1 573 754 4501, X3007

E-mail: sam.correnti@am.dynonobel.com

Cc : Dyno Nobel Inc., Barbara Cabot
MDNR Jefferson City - Pam Hackler
MDNR Northeast Region Office – Irene Crawford



DYNO
Dyno Nobel

Dyno Nobel Americas

Regional Director
Mrs. Irene Crawford
Missouri Department of Natural Resources
1709 Prospect Drive
Macon, MO 63552

DYNO NOBEL INC.
LOMO Plant
11025 Highway D
Louisiana, Missouri
63353 USA
Telephone: 573-754-4501
Fax: 573-754-6525
www.dynonobel.com

| | | | | | |
|-------------|--------|------------------|---|-----------------|-------------|
| Date | 1/8/15 | Your ref. | Letter of Warning Response NPDES PERMIT MO-0105783 3.500 PIKE COUNTY DYNO NOBEL INC/LOMO PLANT | File no. | L.O.W. 1/15 |
|-------------|--------|------------------|---|-----------------|-------------|

Dear Ms. Crawford,

In response to your Letter of Warning dated December 10, 2014 (Attachment 1), Dyno Nobel Inc. (Dyno) has prepared the following explanation, descriptions, of corrective actions as appropriate:

First bullet item of your letter; *"No excursion time was reported for the 6.3 pH excursion for Outfall #001 in December of 2013".*

Response: The time frame was not reported originally. Attachment 2 includes the partial pH data report print out for December 10 and 11, 2013 which indicates the pH excursion lasted 6 minutes, which is less than the permit limitation of 60 minutes.

Second bullet item of your letter; *"Total Suspended Solids (TSS) was not reported for Outfall #001 the first week of December 2013, and for Outfall #002 the second week of September 2014".*

Response: As listed in the 4th Quarter 2013 Report cover letter (Attachment 3); the transitional period from Ashland Hercules to Dyno caused the subject data gap for TSS sampling in December 2013. Subsequent TSS analysis which was reported separately indicates compliance for the listed time frames. Regarding the second week of September 2014 TSS from Outfall 002, due to review

oversight the TSS for Outfall 002 September 2014 was omitted. (Attachment 4) is the lab sample data sheet with results from Outfall 002 for September 9, 2014 indicating TSS of 7.8 mg/L.

Third bullet item of your letter; *"Ammonia as Total Nitrogen for Outfall #002 was not reported for 3rd Quarter 2014"*.

Response: The quarterly sampling and reporting requirement for ammonia from Outfall 002 for 3rd Quarter 2014 was reported on September 10, 2014 as 1 mg/L. Summary results sheet previously submitted with the quarterly report is included as (Attachment 5).

Fourth bullet item from your letter; *"BOD, TSS, and Ammonia for Outfall #001 in mg/L for July 2014 and August 2014 were not submitted by the due date. This data is due on the 28th of the month following the monitoring period end date. This data was submitted on December 9, 2014."*

Response: Per discussions with Northeast Regional Office (NERO) staff (Ms. Martha Cruse), this missing data was submitted in a timely manner after her request.

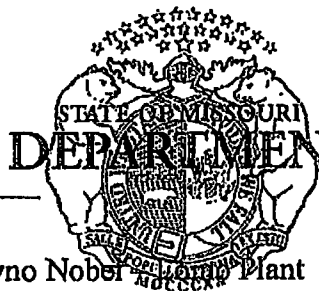
Per your letter; non-compliance issues related the previously reported incidences for BOD, TSS, and E. Coli have been addressed and no further response was required.

Please note that the Letter of Warning was not received at the LOMO plant until 12/30/14, causing this response to be later than your requested 12/29/14 due date.

If you have any questions regarding this information, please contact me at 573-754-4501 x 3007.

Attachment 1

December 10, 2014 Letter of Warning



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

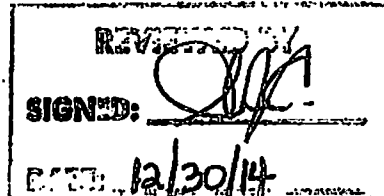
DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

5,200 Dyno Nobel Lomo Plant
Pike County
#MO-0105783

December 10, 2014

Dyno Nobel
Attn: Samuel J. Correnti Jr.
2795 East Cottonwood Parkway
Salt Lake City, UT 84121



RECEIVED LOMO PLANT
12/30/14

LETTER OF WARNING

Dear Permittee:

Missouri State Operating Permit (MSOP) #MO-0105783 was issued to authorize the discharge of storm water runoff to waters of the state from Dyno Nobel – Lomo Plant in Pike County. This permit sets forth specific effluent limitations, monitoring requirements, and specific permit conditions regarding the facility.

A review of your Discharge Monitoring Reports (DMRs) for the November 2013, 2nd Quarter 2014, and 3rd Quarter 2014 periods shows that the effluent limitations established in your MSOP have been exceeded. The effluent limits and the values that have exceeded those effluent limits are listed below.

| Outfall | Monitoring Period | Parameter | Permitted Limitations | Reported Values |
|---------|------------------------------|---------------------------------|----------------------------------|-----------------|
| 002 | November 2013 | Biochemical Oxygen Demand (BOD) | 30 mg/L Monthly Average | 65.7 mg/L |
| 002 | 2 nd Quarter 2014 | E. coli | 126 #/100 mL Monthly Average | 246.3 #/100 mL |
| 001 | 3 rd Quarter 2014 | pH | 9.0 Standard Units Daily Maximum | 9.5 |
| 002 | 3 rd Quarter 2014 | E. coli | 630 #/100 mL Daily Maximum | 5750 #/100 mL |

In addition, these separate violations were noted:

- No excursion time was reported for the 6.3 pH excursion for Outfall #001 in December of 2013.



- Total Suspended Solids (TSS) was not reported for Outfall #001 the first week of December 2013, and for Outfall #002 the second week of September 2014.
- Ammonia as Total Nitrogen for Outfall #002 was not reported for 3rd Quarter 2014.
- BOD, TSS, and Ammonia for Outfall #001 in mg/L for July 2014 and August 2014 were not submitted by the due date. This data is due the 28th of the month following the monitoring period end date. This data was submitted on December 9, 2014.

The Dyno Nobel – Lomo Plant submitted a written report to the Department which explained the cause for the non-compliance and what steps the facility has taken to prevent a reoccurrence of the exceedences for BOD, TSS, and E. coli. No further correspondence concerning the BOD, TSS, and E. coli exceedences is required.

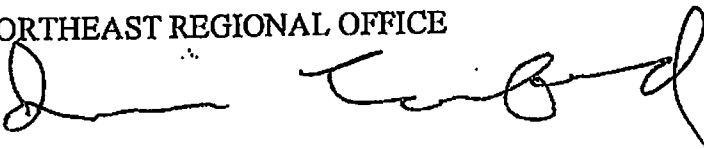
For all additional violations please provide a written report by **December 29, 2014**, to the Department which explains the cause for the non-compliance, the exact dates of non-compliance, the date anticipated to return to compliance, and what steps your operation will take to prevent a reoccurrence of this violation. Dyno Nobel – Lomo Plant will be considered in non-compliance with this violation until the documentation is submitted to this office. Our files will reflect the continued non-compliance regarding this violation until the required documentation is submitted for review.

Be advised that violation of your State Operating Permit conditions, including effluent limits, schedules of compliance, or standard and special conditions, is a serious matter. It is our hope that through conference, conciliation, and persuasion, violations can be corrected. We ask for your urgent cooperation.

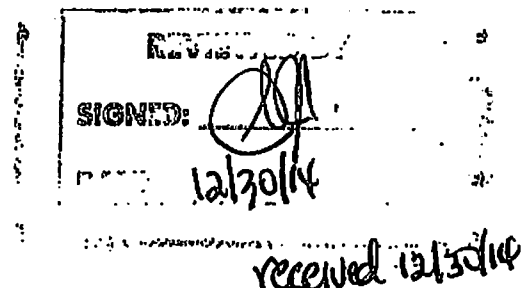
If you have any questions, please contact Ms. Martha Cruse at (660) 385-8000, in the Northeast Regional Office 1709 Prospect Drive, Macon, MO 63552 or by email at NERO@dnr.mo.gov. Responses to this letter may be sent via email, however printed copies of Discharge Monitoring Reports with the original signatures must be submitted.

Sincerely,

NORTHEAST REGIONAL OFFICE


Irene Crawford
Regional Director

IC/mecm

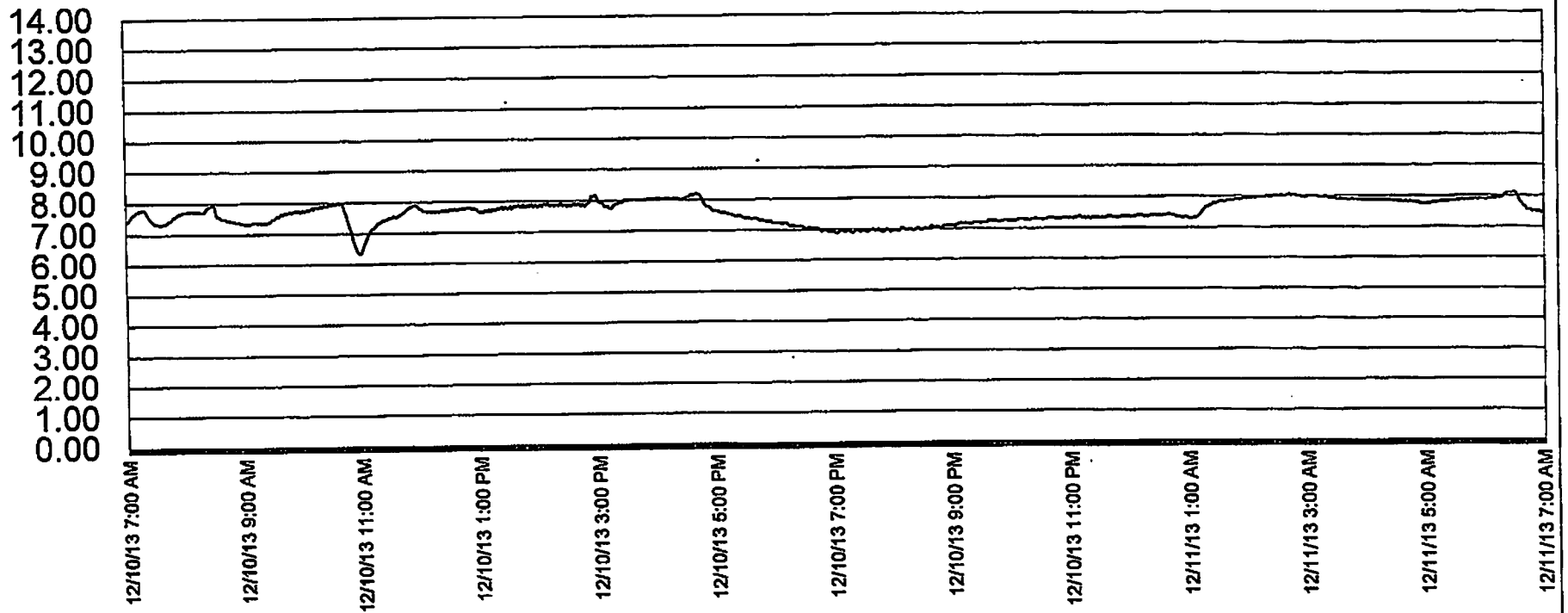


*Celebrating 40 years of taking care of Missouri's natural resources.
To learn more about the Missouri Department of Natural Resources visit dnr.mo.gov.*

Attachment 2

Manhole 15 pH Report

Manhole 15 - pH



Maximum 10-Dec-13 16:42:00 8.2
 Minimum 10-Dec-13 11:00:00 6.3

| | |
|----------|-----------|
| pH > 9.0 | 0 minutes |
| pH < 6.5 | 6 minutes |

Report Date 11-Dec-13
 Printed 06-Jan-15 10:58

10:57-11:03 6min

Attachment 3

4th Quarter 2013 Report Cover Letter



DYNO
Dyno Nobel

Dyno Nobel Americas

Regional Director
Mrs. Irene Crawford
Missouri Department of Natural Resources
1709 Prospect Drive
Macon, MO 63552

DYNO NOBEL INC.
LOMO Plant
11025 Highway D
Louisiana, Missouri
63353 USA
Telephone: 573-754-4501
Fax: 573-754-6525
www.dynonobel.com

Date 1/27/14

Your ref. 4th Quarter 2013 Report
NPDES PERMIT MO-0105783
3,500 PIKE COUNTY

File no. 4th qtr 2013

DYNO NOBEL INC./LOMO PLANT

Enclosed are the Discharge Monitoring Reports for the months of October, November, and December for Outfalls 001 and 008. The reporting period was also a transitional period where Dyno Nobel took over sampling and reporting of discharges from Outfalls 002 and 003 starting December 1 due to NPDES permit modifications received in November. Ashland Hercules Water Technologies retained reporting for Outfalls 002 and 003 for the October and November time frames.

All parameters for Outfall 001 were within appropriate permit limits for the reporting period. A data gap for Outfall 001 sampling of total suspended solids (TSS) was experienced during the first week of December; corrective measure of clarification of sample schedule was implemented and subsequent TSS results indicate compliance. Total Suspended Solids (TSS) data for December is attached separately.

All parameters for Outfall 002 were within permit limits for the reporting period beginning December 1.

All parameters for Outfall 003 were within appropriate permit limits for the period beginning December 1.

Attachment 4

Lab Data Sheet for Outfall 002 September 9, 2014

OUTFALL 002 Weekday FLOW: 16 (9-9-14) gpm

pH (monthly grab) 7.5
(9-10-14)

NH₃-N : (grab; final month of quarter):
(9-10-14 GRAB) 0.492
- 0.452 ml

$$\frac{0.050 \text{ ml} \times 0.01482 \text{ N} \times 14,000}{50 \text{ ml}} = 0.22 \text{ mg/L NH}_3\text{-N}$$

(2.0)

TSS: (monthly comp.)

#1) 33.6303

#2) 33.6301

Ave = 33.6302

33.6302 gm
- 33.6279 gm

$$\frac{0.0023 \times 1000 \times 1000}{292 \text{ ml sample}} = 7.8 \text{ mg/L TSS}$$

OIL & GREASE: (monthly grab)
(9-10-14 GRAB)

1325.05
419.14
905.91

77.0357 gm
- 77.0354 gm
0.0003 gm
- 0.0003 Blank
0.0000

$$\frac{0.0000 \text{ gm} \times 1000 \times 1000}{905.91 \text{ gm}} = 0 \text{ mg/L O\&G}$$

(2.0)

BOD: (monthly comp.) _____ mg/L BOD

E. coli: (weekly grab April 1- October 31): _____ C/100ml

Outfall 003: Weekday Flow: 344 gpm

Date 9-8-14
Rainfall

pH: (monthly grab) 8.10

SS: (monthly grab) 40.5 ml/L/hr

Attachment 5

September 2014 Outfall 002 Summary Data Report

September 2014

Dyno Nobel, Inc.

Outfall 002

| Date | Flow mgd | NH3-N mg/L | BOD mg/L | Oil and Grease mg/L | TSS mg/L | pH | E coli C/100mL | Analyst |
|-----------|-------------|---------------|-------------|------------------------|-------------|-----|-------------------|---------|
| 9/1/2014 | 0.03 | | | | | | | |
| 9/2/2014 | 0.05 | | | | | | | |
| 9/3/2014 | 0.05 | | | | | | 10 | |
| 9/4/2014 | 0.03 | | | | | | | |
| 9/5/2014 | 0.04 | | | | | | | |
| 9/6/2014 | | | | | | | | |
| 9/7/2014 | | | | | | | | |
| 9/8/2014 | 0.02 | | | | | | | |
| 9/9/2014 | 0.02 | | 17 | | | | | |
| 9/10/2014 | 0.08 | 1 | | 2.0 | | 7.5 | 6750 | SLN |
| 9/11/2014 | 0.02 | | | | | | | |
| 9/12/2014 | 0.03 | | | | | | | |
| 9/13/2014 | | | | | | | | |
| 9/14/2014 | | | | | | | | |
| 9/15/2014 | 0.02 | | | | | | | |
| 9/16/2014 | 0.02 | | | | | | | |
| 9/17/2014 | 0.02 | | | | | | 10 | |
| 9/18/2014 | 0.02 | | | | | | | |
| 9/19/2014 | 0.02 | | | | | | | |
| 9/20/2014 | | | | | | | | |
| 9/21/2014 | | | | | | | | |
| 9/22/2014 | 0.03 | | | | | | | |
| 9/23/2014 | 0.04 | | | | | | | |
| 9/24/2014 | 0.02 | | | | | | 10 | |
| 9/25/2014 | 0.03 | | | | | | | |
| 9/26/2014 | 0.03 | | | | | | | |
| 9/27/2014 | | | | | | | | |
| 9/28/2014 | | | | | | | | |
| 9/29/2014 | 0.02 | | | | | | | |
| 9/30/2014 | 0.02 | | | | | | 10 | |
| Avg | 0.03 | 1 | 17 | 2.0 | | | | |
| Max | 0.08 | 1 | 17 | 2.0 | | | 6760.0 | |

Permit Min

Permit Avg

Permit Max

6.5

30

10

30

126

45

15

45

9.0

630

Approved by:


Plant Manager

and


Laboratory Specialist

Thursday, October 28, 2014

Page 1 of 1



DYNO NOBEL INC.
LOMO Plant
11025 Highway D
Louisiana, Missouri
63353 USA
Telephone: 573-754-4501
Fax: 573-754-6525
www.dynonobel.com



If you have any questions regarding this report, please contact me directly.

Regards

A handwritten signature in black ink, appearing to read "B. A. Gregory", written over a horizontal line.

Brian Gregory

Environmental Coordinator

Phone: 573-754-4501 X3023

Email: brian.gregory@am.dynonobel.com

cc: Neal Olsen – Dyno Nobel
Barbara Cabot – Dyno Nobel
Sam Correnti – Dyno Nobel

**United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101**

Date: APR 06 2015

Subject: Transmittal of Sample Analysis Results for ASR #: 6745

Project ID: WPD131

Project Description: Dyno Nobel

From: Margaret E.W. St. Germain, Chief *M St Germain* 4/7/15
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: David Pratt
ENSV/EFCB

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: David Pratt**Org:** ENSV/EFCB**Phone:** 913-551-7552**Project ID:** WPD131**Project Desc:** Dyno Nobel**Location:** Louisiana**State:** Missouri**Program:** Water Enforcement**Purpose:** Enforcement**GPRA PRC:** 501E50

CSI

Explanation of Codes, Units and Qualifiers used on this report**Sample QC Codes:** QC Codes identify the type of sample for quality control purpose.**Units:** Specific units in which results are reported.

___ = Field Sample

FB = Field Blank

MGD = Million Gallons per Day

ug/L = Micrograms per Liter

Deg C = Degrees Celsius

mg/L = Milligrams per Liter

SU = Standard Units (pH)

mL/L/Hr = Milliliter per liter per hour

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

J = The identification of the analyte is acceptable; the reported value is an estimate.

U = The analyte was not detected at or above the reporting limit.

ASR Number: 6745**Sample Information Summary****04/06/2015****Project ID: WPD131****Project Desc: Dyno Nobel**

| Sample No | QC Code | Matrix | Location Description | External Sample No | Start Date | Start Time | End Date | End Time | Receipt Date |
|-----------|---------|--------|-------------------------------|--------------------|------------|------------|------------|----------|--------------|
| 1 - | | Water | Outfall 001, Grab, Day 1 | | 03/10/2015 | 12:05 | | | 03/11/2015 |
| 2 - | | Water | Outfall 001, Composite, Day 1 | | 03/09/2015 | 12:42 | 03/10/2015 | 12:12 | 03/11/2015 |
| 3 - | | Water | Outfall 001, Grab, Day 2 | | 03/11/2015 | 11:30 | | | 03/12/2015 |
| 4 - | | Water | Outfall 001, Composite, Day 2 | | 03/10/2015 | 12:33 | 03/11/2015 | 11:33 | 03/12/2015 |
| 5 - | | Water | Outfall 001, Grab, Day 3 | | 03/12/2015 | 11:15 | | | 03/13/2015 |
| 6 - | | Water | Outfall 001, Composite, Day 3 | | 03/11/2015 | 11:58 | 03/12/2015 | 11:28 | 03/13/2015 |
| 10 - | FB | Water | Nutrients Field Blank | | 03/11/2015 | 11:21 | | | 03/12/2015 |
| 12 - | FB | Water | O&G Field Blank | | 03/11/2015 | 11:23 | | | 03/12/2015 |
| 14 - | FB | Water | Metals Field Blank | | 03/11/2015 | 11:24 | | | 03/12/2015 |
| 21 - | | Water | Outfall 002, Grab, Day 1 | | 03/10/2015 | 13:30 | | | 03/11/2015 |
| 22 - | | Water | Outfall 002, Composite, Day 1 | | 03/09/2015 | 13:34 | 03/10/2015 | 13:04 | 03/11/2015 |
| 23 - | | Water | Outfall 002, Grab, Day 2 | | 03/11/2015 | 12:33 | | | 03/12/2015 |
| 24 - | | Water | Outfall 002, Composite, Day 2 | | 03/10/2015 | 13:22 | 03/11/2015 | 12:52 | 03/12/2015 |
| 25 - | | Water | Outfall 002, Grab, Day 3 | | 03/12/2015 | 12:05 | | | 03/13/2015 |
| 26 - | | Water | Outfall 002, Composite, Day 3 | | 03/11/2015 | 12:59 | 03/12/2015 | 12:29 | 03/13/2015 |
| 31 - | | Water | Outfall 003, Grab, Day 1 | | 03/10/2015 | 13:55 | | | 03/11/2015 |
| 33 - | | Water | Outfall 003, Grab, Day 2 | | 03/11/2015 | 11:15 | | | 03/12/2015 |
| 35 - | | Water | Outfall 003, Grab, Day 3 | | 03/12/2015 | 11:01 | | | 03/13/2015 |

Analysis Comments About Results For This Analysis

1 Ammonia in Water**Lab:** Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Method 350.1 v2.0**Samples:** 2-__ 4-__ 6-__ 10-FB 21-__ 23-__ 25-__**Comments:****1 Anions in Water by Lachat Ion Chromatography****Lab:** Region 7 EPA Laboratory - Kansas City, Ks.**Method:** Region 7 RLAB Method 3135.15A**Samples:** 2-__ 4-__ 6-__**Comments:**

Bromide was qualified with a U code at the elevated reporting limit of 0.500 mg/L for samples 2, 4 and 6. A 1:10 dilution was needed to prevent column overloading and to obtain good bromide MS/MSD recoveries.

1 BOD5 in Water by DO Probe**Lab:** Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Region 7 RLAB Method 3153.1F**Samples:** 2-__ 4-__ 6-__ 22-__ 24-__ 26-__**Comments:**

Biochemical Oxygen Demand was J-coded in sample 22. Although the analyte in question has been positively identified in the sample, the quantitation is an estimate (J-coded) due to poor precision obtained for this analyte in the laboratory duplicate sample. (PCL: 9.7; RPD: 9.9)

1 Flow, Million Gallons per Day**Lab:** (Field Measurement)**Method:** Measurement of field parameter**Samples:** 2-__ 4-__ 6-__ 22-__ 24-__ 26-__ 31-__
 33-__ 35-__**Comments:**

(N/A)

1 Metals in Water by ICP-AES**Lab:** Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Region 7 RLAB Method 3122.3F**Samples:** 1-__ 3-__ 5-__ 14-FB**Comments:**

Analysis Comments About Results For This Analysis

1 NFS or Nonfilterable Solids**Lab:** Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Region 7 RLAB Method 3142.3G**Samples:** 2-__ 4-__ 6-__ 22-__ 24-__ 26-__**Comments:****1 Nitrogen, Nitrate+Nitrite in Water****Lab:** Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Method 353.2 for acidified samples (for total NO3+NO2 analysis). v2.0**Samples:** 10-FB 21-__ 23-__ 25-__**Comments:****1 Oil & Grease in Water****Lab:** Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Method 1664**Samples:** 1-__ 3-__ 5-__ 12-FB 21-__ 23-__ 25-__**Comments:****1 Pesticides in Water by GC/EC****Lab:** Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Region 7 RLAB Method 3240.2I**Samples:** 1-__ 3-__ 5-__**Comments:****1 pH of Water by Field Measurement****Lab:** (Field Measurement)**Method:** Measurement of field parameter**Samples:** 1-__ 3-__ 5-__ 21-__ 23-__ 25-__ 31-__
 33-__ 35-__**Comments:**

(N/A)

1 Settleable Solids (volumetric) in Water

Analysis Comments About Results For This Analysis

Lab: Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Region 7 RLAB Method 3142.11B**Samples:** 31-__ 33-__ 35-__**Comments:****1 Temperature of Water by Field Measurement****Lab:** (Field Measurement)**Method:** Measurement of field parameter**Samples:** 1-__ 3-__ 5-__ 21-__ 23-__ 25-__ 31-__
 33-__ 35-__**Comments:**

(N/A)

1 Total Dissolved Oxygen in Water by Field Measurement**Lab:** (Field Measurement)**Method:** Measurement of field parameter**Samples:** 21-__ 23-__ 25-__**Comments:**

(N/A)

1 Total Kjeldahl Nitrogen in Water Colorimetric**Lab:** Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Region 7 RLAB Method 3133.3G**Samples:** 10-FB 21-__ 23-__ 25-__**Comments:**

(N/A)

1 Total Phosphorus in Water, Colorimetric**Lab:** Region 7 EPA Laboratory - Kansas City, Ks.**Method:** EPA Region 7 RLAB Method 3133.4F**Samples:** 10-FB 21-__ 23-__ 25-__**Comments:**

(N/A)

| Analysis/ Analyte | Units | 1-__ | 2-__ | 3-__ | 4-__ |
|--|-------|---------|---------|---------|---------|
| 1 Ammonia in Water | | | | | |
| Ammonia as Nitrogen | mg/L | | 104 | | 51.1 |
| 1 Anions in Water by Lachat Ion Chromatography | | | | | |
| Bromide | mg/L | | 0.500 U | | 0.500 U |
| Chloride | mg/L | | 129 | | 128 |
| Fluoride | mg/L | | 0.432 | | 0.482 |
| Nitrate as Nitrogen | mg/L | | 150 | | 78.7 |
| Nitrite as Nitrogen | mg/L | | 1.54 | | 1.58 |
| Phosphate as Phosphorus | mg/L | | 0.773 | | 0.958 |
| Sulfate | mg/L | | 289 | | 321 |
| 1 BOD5 in Water by DO Probe | | | | | |
| BOD5 | mg/L | | 17.6 | | 10.5 |
| 1 Flow, Million Gallons per Day | | | | | |
| Flow (MGD) | MGD | | 0.85566 | | 0.35891 |
| 1 Metals in Water by ICP-AES | | | | | |
| Aluminum | ug/L | 112 | | 240 | |
| Antimony | ug/L | 50 U | | 50 U | |
| Arsenic | ug/L | 25 U | | 25 U | |
| Barium | ug/L | 79 | | 89 | |
| Beryllium | ug/L | 3 U | | 3 U | |
| Cadmium | ug/L | 3 U | | 3 U | |
| Calcium | mg/L | 105 | | 107 | |
| Chromium | ug/L | 15 U | | 15 U | |
| Cobalt | ug/L | 10 U | | 10 U | |
| Copper | ug/L | 58 | | 84 | |
| Iron | ug/L | 166 | | 342 | |
| Lead | ug/L | 50 U | | 50 U | |
| Magnesium | mg/L | 36.3 | | 37.7 | |
| Manganese | ug/L | 47 | | 60 | |
| Molybdenum | ug/L | 15 U | | 15 U | |
| Nickel | ug/L | 20 U | | 20 U | |
| Potassium | mg/L | 5.56 | | 5.92 | |
| Selenium | ug/L | 50 U | | 50 U | |
| Silver | ug/L | 25 U | | 25 U | |
| Sodium | mg/L | 114 | | 104 | |
| Thallium | ug/L | 50 U | | 50 U | |
| Titanium | ug/L | 20 U | | 20 U | |
| Vanadium | ug/L | 10 U | | 10 U | |
| Zinc | ug/L | 25 U | | 25 U | |
| 1 NFS or Nonfilterable Solids | | | | | |
| Solids, nonfilterable | mg/L | | 8.93 | | 5.45 |
| 1 Oil & Grease in Water | | | | | |
| Oil & Grease | mg/L | 5.00 U | | 5.00 U | |
| 1 Pesticides in Water by GC/EC | | | | | |
| Aldrin | ug/L | 0.030 U | | 0.030 U | |
| Aroclor 1016 | ug/L | 1.0 U | | 1.0 U | |

ASR Number: 6745
Project ID: WPD131

RLAB Approved Sample Analysis Results
Project Desc: Dyno Nobel

04/06/2015

| Analysis/ Analyte | Units | 1-__ | 2-__ | 3-__ | 4-__ |
|---|-------|---------|------|---------|------|
| Aroclor 1221 | ug/L | 1.0 U | | 1.0 U | |
| Aroclor 1232 | ug/L | 1.0 U | | 1.0 U | |
| Aroclor 1242 | ug/L | 0.80 U | | 0.80 U | |
| Aroclor 1248 | ug/L | 0.80 U | | 0.80 U | |
| Aroclor 1254 | ug/L | 0.60 U | | 0.60 U | |
| Aroclor 1260 | ug/L | 0.40 U | | 0.40 U | |
| A-BHC | ug/L | 0.010 U | | 0.010 U | |
| B-BHC | ug/L | 0.060 U | | 0.060 U | |
| D-BHC | ug/L | 0.020 U | | 0.020 U | |
| G-BHC | ug/L | 0.020 U | | 0.020 U | |
| Chlordane, technical | ug/L | 0.20 U | | 0.20 U | |
| p,p'-DDD | ug/L | 0.040 U | | 0.040 U | |
| p,p'-DDE | ug/L | 0.050 U | | 0.050 U | |
| p,p'-DDT | ug/L | 0.050 U | | 0.050 U | |
| Dieldrin | ug/L | 0.030 U | | 0.030 U | |
| Endosulfan I | ug/L | 0.030 U | | 0.030 U | |
| Endosulfan II | ug/L | 0.040 U | | 0.040 U | |
| Endosulfan Sulfate | ug/L | 0.040 U | | 0.040 U | |
| Endrin | ug/L | 0.040 U | | 0.040 U | |
| Endrin Aldehyde | ug/L | 0.050 U | | 0.050 U | |
| Endrin Ketone | ug/L | 0.040 U | | 0.040 U | |
| Heptachlor | ug/L | 0.030 U | | 0.030 U | |
| Heptachlor Epoxide | ug/L | 0.030 U | | 0.030 U | |
| p,p'-Methoxychlor | ug/L | 0.080 U | | 0.080 U | |
| Toxaphene | ug/L | 2.0 U | | 2.0 U | |
| 1 pH of Water by Field Measurement | | | | | |
| pH | SU | 8.04 | | 7.86 | |
| 1 Temperature of Water by Field Measurement | | | | | |
| Temperature | Deg C | 22.4 | | 25.7 | |

ASR Number: 6745
Project ID: WPD131

RLAB Approved Sample Analysis Results
Project Desc: Dyno Nobel

04/06/2015

| Analysis/ Analyte | Units | 5-__ | 6-__ | 10-FB | 12-FB |
|--|-------|--------|---------|----------|--------|
| 1 Ammonia in Water | | | | | |
| Ammonia as Nitrogen | mg/L | | 53.9 | 0.100 U | |
| 1 Anions in Water by Lachat Ion Chromatography | | | | | |
| Bromide | mg/L | | 0.500 U | | |
| Chloride | mg/L | | 113 | | |
| Fluoride | mg/L | | 0.449 | | |
| Nitrate as Nitrogen | mg/L | | 86.2 | | |
| Nitrite as Nitrogen | mg/L | | 2.05 | | |
| Phosphate as Phosphorus | mg/L | | 1.02 | | |
| Sulfate | mg/L | | 322 | | |
| 1 BOD5 in Water by DO Probe | | | | | |
| BOD5 | mg/L | | 10.0 | | |
| 1 Flow, Million Gallons per Day | | | | | |
| Flow (MGD) | MGD | | 0.32043 | | |
| 1 Metals in Water by ICP-AES | | | | | |
| Aluminum | ug/L | 81 | | | |
| Antimony | ug/L | 50 U | | | |
| Arsenic | ug/L | 25 U | | | |
| Barium | ug/L | 82 | | | |
| Beryllium | ug/L | 3 U | | | |
| Cadmium | ug/L | 3 U | | | |
| Calcium | mg/L | 105 | | | |
| Chromium | ug/L | 15 U | | | |
| Cobalt | ug/L | 10 U | | | |
| Copper | ug/L | 66 | | | |
| Iron | ug/L | 101 | | | |
| Lead | ug/L | 50 U | | | |
| Magnesium | mg/L | 37.4 | | | |
| Manganese | ug/L | 43 | | | |
| Molybdenum | ug/L | 15 U | | | |
| Nickel | ug/L | 20 U | | | |
| Potassium | mg/L | 5.91 | | | |
| Selenium | ug/L | 50 U | | | |
| Silver | ug/L | 25 U | | | |
| Sodium | mg/L | 119 | | | |
| Thallium | ug/L | 50 U | | | |
| Titanium | ug/L | 20 U | | | |
| Vanadium | ug/L | 10 U | | | |
| Zinc | ug/L | 25 U | | | |
| 1 NFS or Nonfilterable Solids | | | | | |
| Solids, nonfilterable | mg/L | | 4.35 | | |
| 1 Nitrogen, Nitrate+Nitrite in Water | | | | | |
| Nitrate + Nitrite as Nitrogen | mg/L | | | 0.0400 U | |
| 1 Oil & Grease in Water | | | | | |
| Oil & Grease | mg/L | 5.00 U | | | 5.00 U |

ASR Number: 6745

RLAB Approved Sample Analysis Results

04/06/2015

Project ID: WPD131

Project Desc: Dyno Nobel

| Analysis/ Analyte | Units | 33-__ | 35-__ |
|---|---------|---------|---------|
| 1 Flow, Million Gallons per Day Flow (MGD) | MGD | 0.46656 | 0.38016 |
| 1 pH of Water by Field Measurement pH | SU | 8.28 | 8.30 |
| 1 Settleable Solids (volumetric) in Water Solids, settleable | mL/L/Hr | 1.00 U | 1.00 U |
| 1 Temperature of Water by Field Measurement Temperature | Deg C | 6.3 | 6.2 |

| | | | | | | | | | | |
|--|---------------------------|---|------------------------|--|--|------------------------------|-------------------------------|----------|--|------|
| ACTIVITY LEADER(Print) <i>David Pratt</i> | | NAME OF SURVEY OR ACTIVITY <i>Dyno Nobel</i> | | DATE OF COLLECTION <i>10</i> DAY <i>23</i> MONTH <i>15</i> YEAR | | | SHEET <i>1</i> of <i>1</i> | | | |
| CONTENTS OF SHIPMENT <i>Wastewater</i> | | | | | | | | | | |
| SAMPLE NUMBER | TYPE OF CONTAINERS | | | | SAMPLED MEDIA | | | | RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.) | |
| | <i>1.4L</i> CUBITAINER | <i>32oz clear</i> BOTTLE | <i>128oz</i> BOTTLE | <i>32oz Amber</i> BOTTLE | VOA SET (2 VIALS EA) | water | soil | sediment | | dust |
| NUMBERS OF CONTAINERS PER SAMPLE NUMBER | | | | | | | | | | |
| <i>6745-1</i> | <i>1</i> | <i>3</i> | <i>2</i> | | | <i>X</i> | | | | |
| <i>6745-2</i> | <i>4</i> | | | | | <i>X</i> | | | | |
| <i>6745-21</i> | <i>1</i> | <i>1</i> | | | | <i>X</i> | | | | |
| <i>6745-22</i> | <i>2</i> | | | | | <i>X</i> | | | | |
| <i>6745-31</i> | | | | <i>2</i> | | <i>X</i> | | | | |
| <div><i>Box Complete</i></div> | | | | | | | | | | |
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| DESCRIPTION OF SHIPMENT | | | | | MODE OF SHIPMENT | | | | | |
| <i>16</i> PIECE(S) CONSISTING OF _____ BOX(ES) | | | | | <input checked="" type="checkbox"/> COMMERCIAL CARRIER: <i>UPS</i> | | | | | |
| <i>1</i> ICE CHEST(S); OTHER _____ | | | | | ____ COURIER | | | | | |
| | | | | | ____ SAMPLER CONVEYED | | | | | |
| | | | | | <i>12A4424E22 1000 7806</i> | | | | | |
| | | | | | (SHIPPING DOCUMENT NUMBER) | | | | | |
| PERSONNEL CUSTODY RECORD | | | | | | | | | | |
| RELINQUISHED BY (SAMPLER) | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | |
| <i>David Pratt</i> | | <i>03/10/15</i> | <i>16:36</i> | <i>Nicole Rowe</i> | | <i>Analysis</i> | | | | |
| <input checked="" type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input checked="" type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | |
| RELINQUISHED BY | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | |
| | | | | | | | | | | |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | |
| RELINQUISHED BY | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | |
| | | | | | | | | | | |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | |
| RELINQUISHED BY | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | |
| | | | | | | | | | | |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | |

**CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII**

| | | | |
|--|---|--|-------------------------------|
| ACTIVITY LEADER(Print) <i>David Pratt</i> | NAME OF SURVEY OR ACTIVITY <i>Dyno Nobel</i> | DATE OF COLLECTION DAY <i>11</i> MONTH <i>23</i> YEAR <i>15</i> | SHEET <i>1</i> of <i>1</i> |
|--|---|--|-------------------------------|

CONTENTS OF SHIPMENT *Wastewater*

| SAMPLE NUMBER | TYPE OF CONTAINERS | | | | | SAMPLED MEDIA | | | | | RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.) |
|---|---|-------------------------|------------------------------|------------------------------|-------------------------|---------------|------|----------|------|-------|---|
| | <i>1.5 L</i> CUBITAINER | <i>128 oz</i> BOTTLE | <i>32 oz Clear</i> BOTTLE | <i>32 oz Amber</i> BOTTLE | VOA SET (2 VIALS EA) | water | soil | sediment | dust | other | |
| | NUMBERS OF CONTAINERS PER SAMPLE NUMBER | | | | | | | | | | |
| <i>6745-3</i> | <i>1</i> | <i>1</i> | <i>1</i> | | | <i>X</i> | | | | | |
| <i>6745-4</i> | <i>4</i> | | | | | <i>X</i> | | | | | |
| <i>6745-10-FB</i> | <i>1</i> | | | | | <i>X</i> | | | | | |
| <i>6745-12-FB</i> | | | <i>1</i> | | | <i>X</i> | | | | | |
| <i>6745-14-FB</i> | <i>1</i> | | | | | <i>X</i> | | | | | |
| <i>6745-23</i> | <i>1</i> | | <i>1</i> | | | <i>X</i> | | | | | |
| <i>6745-24</i> | <i>2</i> | | | | | <i>X</i> | | | | | |
| <i>6745-33</i> | | | | <i>1</i> | | <i>X</i> | | | | | |
| <div style="border: 1px solid black; border-radius: 50%; width: 150px; height: 150px; margin: auto; display: flex; align-items: center; justify-content: center;"> <i>Not Complete</i> </div> | | | | | | | | | | | |

*Chr. Temp. Rec'd. Rec'd.
0-1° - 3/12/15*

| | |
|---|---|
| DESCRIPTION OF SHIPMENT <i>15</i> PIECE(S) CONSISTING OF _____ BOX(ES) <i>1</i> ICE CHEST(S): OTHER _____ | MODE OF SHIPMENT <input checked="" type="checkbox"/> COMMERCIAL CARRIER: <i>UPS</i> <input type="checkbox"/> COURIER <input type="checkbox"/> SAMPLER CONVEYED |
|---|---|

12A4424E2210007780
(SHIPPING DOCUMENT NUMBER)

| PERSONNEL CUSTODY RECORD | | | |
|--|-------------------------|----------------------|--|
| RELINQUISHED BY (SAMPLER) <i>David Pratt</i> | DATE <i>03/11/15</i> | TIME <i>16:45</i> | RECEIVED BY <i>Michael Rowley</i> |
| <input checked="" type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | <input checked="" type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED |
| REASON FOR CHANGE OF CUSTODY <i>Analys</i> | | | |
| RELINQUISHED BY | DATE | TIME | RECEIVED BY |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED |
| REASON FOR CHANGE OF CUSTODY | | | |
| RELINQUISHED BY | DATE | TIME | RECEIVED BY |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED |
| REASON FOR CHANGE OF CUSTODY | | | |

| | | | | | | | | | | | |
|---|-----------------------|--|-----------------------|--|---|--|-----------------|----------|--------|---|-------|
| ACTIVITY LEADER(Print) David Pratt | | NAME OF SURVEY OR ACTIVITY Dyna Nobel | | DATE OF COLLECTION 2 DAY 03 MONTH 15 YEAR | | | SHEET 1 of 1 | | | | |
| CONTENTS OF SHIPMENT Wastewater | | | | | | | | | | | |
| SAMPLE NUMBER | TYPE OF CONTAINERS | | | | | SAMPLED MEDIA | | | | RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.) | |
| | 1 liter CUBITAINER | 128 oz BOTTLE | 32 oz Clear BOTTLE | 32 oz Amber BOTTLE | VOA SET (2 VIALS EA) | water | soil | sediment | digest | | other |
| NUMBERS OF CONTAINERS PER SAMPLE NUMBER | | | | | | | | | | | |
| 6745-5 | 1 | 1 | 1 | | | X | | | | | |
| 6745-6 | 4 | | | | | X | | | | | |
| 6745-25 | 1 | | 1 | | | X | | | | | |
| 6745-26 | 2 | | | | | X | | | | | |
| 6745-35 | | | | 1 | | X | | | | | |
| <div>Complete</div> | | | | | | | | | | | |
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| | | | | | | | | | | | |
| DESCRIPTION OF SHIPMENT 12 PIECE(S) CONSISTING OF _____ BOX(ES) 1 ICE CHEST(S): OTHER to refrigerator | | | | | MODE OF SHIPMENT _____ COMMERCIAL CARRIER _____ _____ COURIER _____ <input checked="" type="checkbox"/> SAMPLER CONVEYED _____ (SHIPPING DOCUMENT NUMBER) _____ PM delivered Samples to the BID Refrig @ 400 3/13/15 | | | | | | |
| PERSONNEL CUSTODY RECORD | | | | | | | | | | | |
| RELINQUISHED BY (SAMPLER) David Pratt | | DATE 03/12/15 | TIME 19:05 | RECEIVED BY Nich Robb | | REASON FOR CHANGE OF CUSTODY Analysis | | | | | |
| <input type="checkbox"/> SEALED <input checked="" type="checkbox"/> UNSEALED | | | | <input type="checkbox"/> SEALED <input checked="" type="checkbox"/> UNSEALED | | | | | | | |
| RELINQUISHED BY | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | | |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | | |
| RELINQUISHED BY | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | | |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | | |

**US EPA Region 7
Kansas City, KS**

| | | | |
|----------------------|-------------------|-------------------------|-------------|
| Project ID: | WPD131 | Project Manager: | David Pratt |
| Project Desc: | Dyno Nobel | | |
| City: | Louisiana | State: | Missouri |
| Program: | Water Enforcement | | |

Storet ID: _____ External Sample Number: _____

Latitude: **Sample Collection: Start:** 03/10/2015 12:05

Longitude: _____ End: ____/____/____ : ____

Parameter

| | Value | Units |
|---------------|--------|-------|
| Temperature : | 22.4°C | Deg C |
| pH : | 8.04 | SU |

Container

Preservative

Holding Time

Analysis

| | | | | |
|------------------------|-----------------------|-----|------|--------------------------------|
| 1 - 1 Liter Cubitainer | HNO3 acidify, 4 Deg C | 180 | Days | 1 Metals in Water by ICP-AES |
| 1 - 1 Liter glass | 4 Deg C, HCL to pH<2 | 28 | Days | 1 Oil & Grease in Water |
| 1 - 128oz amber glass | 4 Deg C | 7 | Days | 1 Pesticides in Water by GC/EC |

Sample Comments:

(N/A)

1 of 1

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 6745 **Sample Number:** 2 **QC Code:** ____ **Matrix:** Water **Tag ID:** 6745-2-____

Project ID: WPD131 **Project Manager:** David Pratt
Project Desc: Dyno Nobel
City: Louisiana **State:** Missouri
Program: Water Enforcement

Location Desc: Outfall 001, Composite, Day 1

Storet ID: _____ **External Sample Number:** _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ____ ____ ____

Sample Collection: Start: 03/09/2015

12:42

Longitude: ____ ____ ____

End: 03/10/2015

12:12

Field Measurement

Parameter

Value

Units

Flow : 0.8556

MGD

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|--------------|--------------|--|
| 1 - 1 Liter Cubitainer | 4 Deg C | 2 Days | 1 Anions in Water by Lachat Ion Chromatography |
| 1 - 1 Liter Cubitainer | 4 Deg C | 7 Days | 1 NFS or Nonfilterable Solids |
| 1 - 1 Liter Cubitainer | 4 Deg C | 2 Days | 1 BOD5 in Water by DO Probe |
| 1 - 1 Liter Cubitainer | 5 mL H2SO4/L | 28 Days | 1 Ammonia in Water |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 6745 **Sample Number:** 3 **QC Code:** ____ **Matrix:** Water **Tag ID:** 6745-3-____

Project ID: WPD131 **Project Manager:** David Pratt
Project Desc: Dyno Nobel
City: Louisiana **State:** Missouri
Program: Water Enforcement

Location Desc: Outfall 001, Grab, Day 2

Storet ID: _____ **External Sample Number:** _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ____ ____ ____ **Sample Collection: Start:** 03/11/2015 11:30

Longitude: ____ ____ ____ **End:** ____/____/____ ____:____

Field Measurement

Parameter

Value

Units

Temperature : 25.7 Deg C
pH : 7.86 SU

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|-----------------------|--------------|--------------------------------|
| 1 - 1 Liter Cubitainer | HNO3 acidify, 4 Deg C | 180 Days | 1 Metals in Water by ICP-AES |
| 1 - 1 Liter glass | 4 Deg C, HCL to pH<2 | 28 Days | 1 Oil & Grease in Water |
| 1 - 128oz amber glass | 4 Deg C | 7 Days | 1 Pesticides in Water by GC/EC |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 6745 **Sample Number:** 4 **QC Code:** ____ **Matrix:** Water **Tag ID:** 6745-4-____

Project ID: WPD131 **Project Manager:** David Pratt
Project Desc: Dyno Nobel
City: Louisiana **State:** Missouri
Program: Water Enforcement

Location Desc: Outfall 001, Composite, Day 2

Storet ID: _____ **External Sample Number:** _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ____ ____ ____ **Sample Collection: Start:** 03/10/2015 12:33

Longitude: ____ ____ ____ **End:** 03/11/2015 11:33

Field Measurement

| Parameter | Value | Units |
|-----------|----------------|-------|
| Flow : | <u>0.35891</u> | MGD |

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|--------------|--------------|--|
| 1 - 1 Liter Cubitainer | 4 Deg C | 2 Days | 1 Anions in Water by Lachat Ion Chromatography |
| 1 - 1 Liter Cubitainer | 4 Deg C | 7 Days | 1 NFS or Nonfilterable Solids |
| 1 - 1 Liter Cubitainer | 4 Deg C | 2 Days | 1 BOD5 in Water by DO Probe |
| 1 - 1 Liter Cubitainer | 5 mL H2SO4/L | 28 Days | 1 Ammonia in Water |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 6745 **Sample Number:** 5 **QC Code:** ____ **Matrix:** Water **Tag ID:** 6745-5-____

Project ID: WPD131 **Project Manager:** David Pratt
Project Desc: Dyno Nobel
City: Louisiana **State:** Missouri
Program: Water Enforcement

Location Desc: Outfall 001, Grab, Day 3

Storet ID: _____ **External Sample Number:** _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: _____

Sample Collection: Start: 03/12/2015

11:15

Longitude: _____

End: ____/____/____

____:____

Field Measurement

Parameter

Value

Units

Temperature : 25.0 Deg C

pH : 8.15 SU

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|-----------------------|--------------|--------------------------------|
| 1 - 1 Liter Cubitainer | HNO3 acidify, 4 Deg C | 180 Days | 1 Metals in Water by ICP-AES |
| 1 - 1 Liter glass | 4 Deg C, HCL to pH<2 | 28 Days | 1 Oil & Grease in Water |
| 1 - 128oz amber glass | 4 Deg C | 7 Days | 1 Pesticides in Water by GC/EC |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 6745 **Sample Number:** 6 **QC Code:** ____ **Matrix:** Water **Tag ID:** 6745-6-____

Project ID: WPD131 **Project Manager:** David Pratt
Project Desc: Dyno Nobel
City: Louisiana **State:** Missouri
Program: Water Enforcement

Location Desc: Outfall 001, Composite, Day 3

Storet ID: _____ **External Sample Number:** _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ____ ____ ____ **Sample Collection: Start:** 03/11/2015 11:58
Longitude: ____ ____ ____ **End:** 03/12/2015 11:28

Field Measurement

Parameter

Value
Flow : 0.32043 **Units**
MGD

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|--------------|--------------|--|
| 1 - 1 Liter Cubitainer | 4 Deg C | 2 Days | 1 Anions in Water by Lachat Ion Chromatography |
| 1 - 1 Liter Cubitainer | 4 Deg C | 7 Days | 1 NFS or Nonfilterable Solids |
| 1 - 1 Liter Cubitainer | 4 Deg C | 2 Days | 1 BOD5 in Water by DO Probe |
| 1 - 1 Liter Cubitainer | 5 mL H2SO4/L | 28 Days | 1 Ammonia in Water |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 6745 **Sample Number:** 10 **QC Code:** FB **Matrix:** Water **Tag ID:** 6745-10-FB

Project ID: WPD131 **Project Manager:** David Pratt
Project Desc: Dyno Nobel
City: Louisiana **State:** Missouri
Program: Water Enforcement

Location Desc: Nutrients Field Blank

Storet ID: _____ **External Sample Number:** _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: _____ **Sample Collection: Start:** 03/11/15 11:21
Longitude: _____ **End:** ____/____/____ ____:____

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|---------------------------------|--------------|---|
| 1 - 1 Liter Cubitainer | 5 mL H2SO4/L | 28 Days | 1 Ammonia in Water |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Nitrogen, Nitrate+Nitrite in Water |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Total Kjeldahl Nitrogen in Water Colorimetric |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Total Phosphorus in Water, Colorimetric |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet

US EPA Region 7
Kansas City, KS

ASR Number: 6745 Sample Number: 12 QC Code: FB Matrix: Water Tag ID: 6745-12-FB

Project ID: WPD131 Project Manager: David Pratt
Project Desc: Dyno Nobel
City: Louisiana State: Missouri
Program: Water Enforcement

Location Desc: O&G Field Blank

Storet ID: _____ External Sample Number: _____

Expected Conc: _____ (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: _____ Sample Collection: Start: 03/11/15 11:23
Longitude: _____ End: ____/____/____ ____:____

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|-------------------|----------------------|--------------|-------------------------|
| 1 - 1 Liter glass | 4 Deg C, HCL to pH<2 | 28 Days | 1 Oil & Grease in Water |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 6745 **Sample Number:** 14 **QC Code:** FB **Matrix:** Water **Tag ID:** 6745-14-FB

Project ID: WPD131 **Project Manager:** David Pratt
Project Desc: Dyno Nobel
City: Louisiana **State:** Missouri
Program: Water Enforcement

Location Desc: Metals Field Blank

Storet ID: _____ **External Sample Number:** _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: _____ **Sample Collection: Start:** 03/11/15 11:24
Longitude: _____ **End:** ____/____/____ ____:____

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|-----------------------|--------------|------------------------------|
| 1 - 1 Liter Cubitainer | HNO3 acidify, 4 Deg C | 180 Days | 1 Metals in Water by ICP-AES |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet

US EPA Region 7
Kansas City, KS

ASR Number: 6745 Sample Number: 21 QC Code: __ Matrix: Water Tag ID: 6745-21-__

Project ID: WPD131 Project Manager: David Pratt
Project Desc: Dyno Nobel
City: Louisiana State: Missouri
Program: Water Enforcement

Location Desc: Outfall 002, Grab, Day 1

Storet ID: _____ External Sample Number: _____

Expected Conc: _____ (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: _____ Sample Collection: Start: 03/10/2015 12:30
Longitude: _____ End: __/__/__ __:__

Field Measurement

| Parameter | Value | Units |
|--------------------|-------|-------|
| Dissolved Oxygen : | 12.20 | mg/L |
| Temperature : | 10.1 | Deg C |
| pH : | 7.64 | SU |

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|---------------------------------|--------------|---|
| 1 - 1 Liter Cubitainer | 5 mL H2SO4/L | 28 Days | 1 Ammonia in Water |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Nitrogen, Nitrate+Nitrite in Water |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Total Kjeldahl Nitrogen in Water Colorimetric |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Total Phosphorus in Water, Colorimetric |
| 1 - 1 Liter glass | 4 Deg C, HCL to pH<2 | 28 Days | 1 Oil & Grease in Water |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 6745 **Sample Number:** 22 **QC Code:** ____ **Matrix:** Water **Tag ID:** 6745-22-____

Project ID: WPD131 **Project Manager:** David Pratt
Project Desc: Dyno Nobel
City: Louisiana **State:** Missouri
Program: Water Enforcement

Location Desc: Outfall 002, Composite, Day 1

Storet ID: _____ **External Sample Number:** _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**
Latitude: _____ **Sample Collection: Start:** 03/09/2015 13:34
Longitude: _____ **End:** 03/10/2015 12:04

Field Measurement

| Parameter | Value | Units |
|-----------|---------|-------|
| Flow : | 0.05328 | MGD |

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|--------------|--------------|-------------------------------|
| 1 - 1 Liter Cubitainer | 4 Deg C | 7 Days | 1 NFS or Nonfilterable Solids |
| 1 - 1 Liter Cubitainer | 4 Deg C | 2 Days | 1 BOD5 in Water by DO Probe |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet

US EPA Region 7
Kansas City, KS

ASR Number: 6745 Sample Number: 23 QC Code: __ Matrix: Water Tag ID: 6745-23-__

Project ID: WPD131 Project Manager: David Pratt
Project Desc: Dyno Nobel
City: Louisiana State: Missouri
Program: Water Enforcement

Location Desc: Outfall 002, Grab, Day 2

Storet ID: __ External Sample Number: __

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)
Latitude: __ Sample Collection: Start: 03/11/2015 12:33
Longitude: __ End: __/__/__ __: __

Field Measurement

| Parameter | Value | Units |
|--------------------|-------|-------|
| Dissolved Oxygen : | 11.55 | mg/L |
| Temperature : | 9.4 | Deg C |
| pH : | 7.66 | SU |

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|---------------------------------|--------------|---|
| 1 - 1 Liter Cubitainer | 5 mL H2SO4/L | 28 Days | 1 Ammonia in Water |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Nitrogen, Nitrate+Nitrite in Water |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Total Kjeldahl Nitrogen in Water Colorimetric |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Total Phosphorus in Water, Colorimetric |
| 1 - 1 Liter glass | 4 Deg C, HCL to pH<2 | 28 Days | 1 Oil & Grease in Water |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 6745 **Sample Number:** 24 **QC Code:** ____ **Matrix:** Water **Tag ID:** 6745-24-____

Project ID: WPD131 **Project Manager:** David Pratt
Project Desc: Dyno Nobel
City: Louisiana **State:** Missouri
Program: Water Enforcement

Location Desc: Outfall 002, Composite, Day 2

Storet ID: _____ **External Sample Number:** _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ____ ____ ____ **Sample Collection: Start:** 03/10/2015 13:22
Longitude: ____ ____ ____ **End:** 03/11/2015 12:52

Field Measurement

| Parameter | Value | Units |
|-----------|----------|-------|
| Flow : | 0.053280 | MGD |

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|--------------|--------------|-------------------------------|
| 1 - 1 Liter Cubitainer | 4 Deg C | 7 Days | 1 NFS or Nonfilterable Solids |
| 1 - 1 Liter Cubitainer | 4 Deg C | 2 Days | 1 BOD5 in Water by DO Probe |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 6745 **Sample Number:** 25 **QC Code:** __ **Matrix:** Water **Tag ID:** 6745-25-__

Project ID: WPD131 **Project Manager:** David Pratt
Project Desc: Dyno Nobel
City: Louisiana **State:** Missouri
Program: Water Enforcement

Location Desc: Outfall 002, Grab, Day 3

Storet ID: _____ **External Sample Number:** _____

Expected Conc: _____ (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ____ ____ ____ **Sample Collection: Start:** 03/12/2015 12:05
Longitude: ____ ____ ____ **End:** __/__/__ __:__

Field Measurement

| Parameter | Value | Units |
|--------------------|--------------|-------|
| Dissolved Oxygen : | <u>11.97</u> | mg/L |
| Temperature : | <u>9.3</u> | Deg C |
| pH : | <u>7.74</u> | SU |

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|---------------------------------|--------------|---|
| 1 - 1 Liter Cubitainer | 5 mL H2SO4/L | 28 Days | 1 Ammonia in Water |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Nitrogen, Nitrate+Nitrite in Water |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Total Kjeldahl Nitrogen in Water Colorimetric |
| 1 - 1 Liter Cubitainer | 5mL H2SO4 to pH<2.5, 4 Deg C | 28 Days | 1 Total Phosphorus in Water, Colorimetric |
| 1 - 1 Liter glass | 4 Deg C, HCL to pH<2 | 28 Days | 1 Oil & Grease in Water |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet

US EPA Region 7
Kansas City, KS

ASR Number: 6745 Sample Number: 26 QC Code: __ Matrix: Water Tag ID: 6745-26-__

Project ID: WPD131 Project Manager: David Pratt
Project Desc: Dyno Nobel
City: Louisiana State: Missouri
Program: Water Enforcement

Location Desc: Outfall 002, Composite, Day 3

Storet ID: _____ External Sample Number: _____

Expected Conc: _____ (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: _____ Sample Collection: Start: 03/11/2015 12:59
Longitude: _____ End: 03/12/2015 12:29

Field Measurement

| Parameter | Value | Units |
|-----------|---------|-------|
| Flow : | 0.05904 | MGD |

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|------------------------|--------------|--------------|-------------------------------|
| 1 - 1 Liter Cubitainer | 4 Deg C | 7 Days | 1 NFS or Nonfilterable Solids |
| 1 - 1 Liter Cubitainer | 4 Deg C | 2 Days | 1 BOD5 In Water by DO Probe |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet

US EPA Region 7
Kansas City, KS

ASR Number: 6745 Sample Number: 31 QC Code: __ Matrix: Water Tag ID: 6745-31-__

Project ID: WPD131 Project Manager: David Pratt
Project Desc: Dyno Nobel
City: Louisiana State: Missouri
Program: Water Enforcement

Location Desc: Outfall 003, Grab, Day 1

Storet ID: __ External Sample Number: __

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: __ Sample Collection: Start: 03/10/2015 13:55
Longitude: __ End: __/__/__ :__

Field Measurement

Parameter

| | Value | Units |
|---------------|---------|-------|
| Flow : | 0.50976 | MGD |
| Temperature : | 6.2 | Deg C |
| pH : | 8.29 | SU |

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|--------------------------|--------------|--------------|---|
| 2 1- 1 Liter amber glass | 4 Deg C | 2 Days | 1 Settleable Solids (volumetric) in Water |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet

US EPA Region 7
Kansas City, KS

ASR Number: 6745 Sample Number: 33 QC Code: __ Matrix: Water Tag ID: 6745-33-__

Project ID: WPD131 Project Manager: David Pratt
Project Desc: Dyno Nobel
City: Louisiana State: Missouri
Program: Water Enforcement

Location Desc: Outfall 003, Grab, Day 2

Storet ID: __ External Sample Number: __

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)
Latitude: __ Sample Collection: Start: 03/11/2015 11:15
Longitude: __ End: __/__/__ __:__

Field Measurement

Parameter

| | Value | Units |
|---------------|---------|-------|
| Flow : | 0.46656 | MGD |
| Temperature : | 6.3 | Deg C |
| pH : | 8.28 | SU |

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|-------------------------|--------------|--------------|---|
| 1 - 1 Liter amber glass | 4 Deg C | 2 Days | 1 Settleable Solids (volumetric) in Water |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

Sample Collection Field Sheet

US EPA Region 7
Kansas City, KS

ASR Number: 6745 Sample Number: 35 QC Code: __ Matrix: Water Tag ID: 6745-35-__

Project ID: WPD131 Project Manager: David Pratt
Project Desc: Dyno Nobel
City: Louisiana State: Missouri
Program: Water Enforcement

Location Desc: Outfall 003, Grab, Day 3

Storet ID: __ External Sample Number: __

Expected Conc: (or Circle One: Low Medium High) Date Time(24 hr)

Latitude: __ Sample Collection: Start: 03/12/2015 11:01
Longitude: __ End: __/__/__ __:__

Field Measurement

| Parameter | Value | Units |
|---------------|---------|-------|
| Flow : | 0.38016 | MGD |
| Temperature : | 6.2 | Deg C |
| pH : | 8.30 | SU |

Laboratory Analyses:

| Container | Preservative | Holding Time | Analysis |
|-------------------------|--------------|--------------|---|
| 1 - 1 Liter amber glass | 4 Deg C | 2 Days | 1 Settleable Solids (volumetric) in Water |

Sample Comments:

(N/A)

Sample Collected By: David Pratt

int)

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

| ACTIVITY LEADER(Print) <i>David Pratt</i> | | NAME OF SURVEY OR ACTIVITY <i>Dyke Nobel</i> | | DATE OF COLLECTION DAY <u>1</u> MONTH <u>23</u> YEAR <u>15</u> | | | SHEET <u>1</u> of <u>1</u> | | | | |
|---|---|---|------------------------------|--|-------------------------|--|-------------------------------|----------|------|-------|---|
| CONTENTS OF SHIPMENT <i>Wastewater</i> | | | | | | | | | | | |
| SAMPLE NUMBER | TYPE OF CONTAINERS | | | | | SAMPLED MEDIA | | | | | RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.) |
| | <i>1.4L</i> CUBITAINER | <i>128 oz</i> BOTTLE | <i>32 oz clear</i> BOTTLE | <i>32 oz Amber</i> BOTTLE | VOA SET (2 VIALS EA) | water | soil | sediment | dust | other | |
| | NUMBERS OF CONTAINERS PER SAMPLE NUMBER | | | | | | | | | | |
| <i>6745-3</i> | <i>1</i> | <i>1</i> | <i>1</i> | | | <i>X</i> | | | | | |
| <i>6745-4</i> | <i>4</i> | | | | | <i>X</i> | | | | | |
| <i>6745-10-FB</i> | <i>1</i> | | | | | <i>X</i> | | | | | |
| <i>6745-12-FB</i> | | | <i>1</i> | | | <i>X</i> | | | | | |
| <i>6745-14-FB</i> | <i>1</i> | | | | | <i>X</i> | | | | | |
| <i>6745-23</i> | <i>1</i> | | <i>1</i> | | | <i>X</i> | | | | | |
| <i>6745-24</i> | <i>2</i> | | | | | <i>X</i> | | | | | |
| <i>6745-33</i> | | | | <i>1</i> | | <i>X</i> | | | | | |
| <div style="border: 1px solid black; border-radius: 50%; width: 200px; height: 200px; margin: auto; display: flex; align-items: center; justify-content: center;"> <i>Not Complete</i> </div> | | | | | | | | | | | |
| <i>Chr. Temp. Rec'd. Del.</i> <i>0-1° - 3/12/15</i> | | | | | | | | | | | |
| DESCRIPTION OF SHIPMENT | | | | | | MODE OF SHIPMENT | | | | | |
| <u><i>15</i></u> PIECE(S) CONSISTING OF _____ BOX(ES) <u><i>1</i></u> ICE CHEST(S); OTHER _____ | | | | | | <input checked="" type="checkbox"/> COMMERCIAL CARRIER <u><i>UPS</i></u> _____ COURIER _____ SAMPLER CONVEYED <u><i>1244424E2210007780</i></u> (SHIPPING DOCUMENT NUMBER) | | | | | |
| PERSONNEL CUSTODY RECORD | | | | | | | | | | | |
| RELINQUISHED BY (SAMPLER) | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | | |
| <i>David Pratt</i> | | <i>03/11/15</i> | <i>16:45</i> | <i>Michelle Roubly</i> | | <i>Analysis</i> | | | | | |
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CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

| ACTIVITY LEADER(Print) <i>David Pratt</i> | | NAME OF SURVEY OR ACTIVITY <i>Dyna Nobel</i> | | DATE OF COLLECTION 12 / 03 / 15 DAY MONTH YEAR | | | SHEET 1 of 1 | | | | | | | | | | | | | | | | |
|---|---|---|---------------|--|-------------------------|---|-----------------|----------|------|-------|--|---|--|--|--|--|--|---|--|--|--|--|--|
| CONTENTS OF SHIPMENT <i>Wastewater</i> | | | | | | | | | | | | | | | | | | | | | | | |
| SAMPLE NUMBER | TYPE OF CONTAINERS | | | | | SAMPLED MEDIA | | | | | RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.) | | | | | | | | | | | | |
| | CUBITAINER | BOTTLE | BOTTLE | BOTTLE | VOA SET (2 VIALS EA) | water | soil | sediment | dust | other | | | | | | | | | | | | | |
| | NUMBERS OF CONTAINERS PER SAMPLE NUMBER | | | | | | | | | | | | | | | | | | | | | | |
| 6745-5 | 1 | 1 | 1 | | | X | | | | | | | | | | | | | | | | | |
| 6745-6 | 4 | | | | | X | | | | | | | | | | | | | | | | | |
| 6745-25 | 1 | | 1 | | | X | | | | | | | | | | | | | | | | | |
| 6745-26 | 2 | | | | | X | | | | | | | | | | | | | | | | | |
| 6745-35 | | | | 1 | | X | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | DESCRIPTION OF SHIPMENT 12 PIECE(S) CONSISTING OF BOX(ES) 1 ICE CHEST(S): OTHER <i>refrigerator</i> | | | | | | MODE OF SHIPMENT ____ COMMERCIAL CARRIER ____ COURIER <input checked="" type="checkbox"/> SAMPLER CONVEYED <i>PM delivered samples to the BLD Refrig @ 4:00 3/13/15</i> | | | | | |
| PERSONNEL CUSTODY RECORD | | | | | | | | | | | | | | | | | | | | | | | |
| RELINQUISHED BY (SAMPLER) <i>David Pratt</i> | | DATE 03/12/15 | TIME 19:05 | RECEIVED BY <i>Nicole Noble</i> | | REASON FOR CHANGE OF CUSTODY <i>Analysis</i> | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input checked="" type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | | | | | | | | | | | | | | |
| RELINQUISHED BY | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | | | | | | | | | | | | | | |
| RELINQUISHED BY | | DATE | TIME | RECEIVED BY | | REASON FOR CHANGE OF CUSTODY | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | <input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED | | | | | | | | | | | | | | | | | | | |

EQUIPMENT LIST

ACTIVITY NAME: Dyno Nobel
 PARTICIPANTS: _____
 DATES: _____

ACTIVITY # 's: _____

READY DATE: _____

SAMPLING EQUIPMENT

☒ WH* MODEL: _____ 1580HS, _____ 2700, 2 3700¹⁰, _____ 6700
 CONFIGURATION: 2 SINGLE BOTTLE BASE _____ MULTIPLE BOTTLE BASE
 GLASS, ☒ NALGENE
☒ WH INTAKE TUBING: _____ TYGON: _____ 1/4" I.D., 1 roll 3/8" I.D.
 _____ TEFLON: _____ 1/4" I.D., _____ 3/8" I.D.
☐ WH _____ HEATED INTAKE
☐ SR _____ HEAT TAPE
☒ SR POWER SOURCE: 1 POWER PACK (AC)
3 BATTERY PACK (DC)
☒ WH WEIGHTS: 4 R.R. SPIKES, _____ SASH WEIGHTS
☒ WH _____ SAMPLER SUSPENSION HARNESS
☒ WH _____ EXTENSION CORDS
☒ WH BUCKETS: 2 PLASTIC, _____ STAINLESS STEEL
☐ WH FUNNELS: _____ PLASTIC, _____ STAINLESS STEEL
☒ WH POLE SAMPLER: _____ SINGLE LENGTH, 1 DOUBLE LENGTH
☐ WH _____ STAINLESS STEEL PAN _____ SPATULA
☐ SR GRADUATED CYLINDER (_____ ml): _____ PLASTIC
☐ WH SEDIMENT/SLUDGE SAMPLER: _____ PONAR _____ ECKMAN
 _____ PETERSON _____ CORE SAMPLER
☐ WH _____ DEPTH INTEGRATING SAMPLER
☐ WH _____ VACUUM HAND PUMP; _____ # FILTERS, _____ FILTER SIZE

SAMPLE CONTAINERS

☒ WH 33 1-QUART CUBITAINERS
☐ WH _____ 1-GALLON CUBITAINERS
☐ WH _____ 2.5-GALLON CUBITAINERS
☐ WH _____ 5-GALLON CUBITAINERS
☐ WH _____ 3-GALLON POLYETHYLENE BOTTLE (ACID WASHED)
☐ WH _____ 8 oz. GLASS BOTTLE (WIDE MOUTH)
☐ WH _____ 300 ml GLASS BOD BOTTLE (for FIELD DO)
☐ WH _____ 1-PINT GLASS BOTTLE (16 oz. WIDE MOUTH)
☒ WH 13 1-QUART GLASS BOTTLE (32 oz. WIDE MOUTH)
☐ WH _____ 80 oz. GLASS BOTTLE
☒ WH 4 1-GALLON GLASS BOTTLE
☐ WH _____ 3-GALLON GLASS BOTTLE (ACID WASHED & SOLVENT RINSED)
☐ WH _____ 4-OUNCE PLASTIC BOTTLE
☐ WH _____ 40-ml GLASS VIALS (SET OF 2 IN CUBITAINER + CARBON FILLED THIMBLE)
☐ WH _____ 40-ml GLASS VIALS (SET OF 4 IN CUBITAINER + CARBON FILLED THIMBLE)
☐ WH _____ 40-ml GLASS VIALS w/ ORGANIC FREE WATER (SET OF 2)
☒ WH 4 32 oz Glass Amber

Bubble wrap

SAMPLE PRESERVATIVE [see 40 CFR 136]

- | | | | | |
|-------------------------------------|----|-------------|---|--|
| <input type="checkbox"/> | PS | <u> </u> | HCl (1:1): | for VOC (dropper bottle: 2 drops) |
| <input checked="" type="checkbox"/> | PS | <u>9</u> | HCl (1:1): | for OIL AND GREASE (5 ml/L) |
| <input checked="" type="checkbox"/> | PS | <u>4</u> | HNO ₃ (1:1): | <u>2</u> for TOTAL METALS (5 ml/L) |
| | | | | <u> </u> for DISSOLVED METALS (1 ml/4oz.) |
| <input checked="" type="checkbox"/> | PS | <u>7</u> | H ₂ SO ₄ (Conc.): | <u>X</u> for NUTRIENTS (5 ml/L) |
| | | | | <u> </u> for PHENOLICS (2 ml/L) |
| | | | | <u> </u> for OIL AND GREASE (2 ml/L) |
| <input type="checkbox"/> | PS | <u> </u> | NaOH Pellets: | for CYANIDE (10/Liter) |
| <input type="checkbox"/> | PS | <u> </u> | ZINC ACETATE: | for SULFIDE (2ml/L) |
| <input type="checkbox"/> | PS | <u> </u> | H ₂ SO ₄ (Conc.): | <u> </u> for DO (1 ml/300 ml) |
| <input type="checkbox"/> | PS | <u> </u> | MANGANOUS SULFATE Powder Pillows | (for D.O.) |
| <input type="checkbox"/> | PS | <u> </u> | ALKALINE IODIDE-AZIDE Powder Pillows | (for D.O.) |
| <input checked="" type="checkbox"/> | SR | <u>1</u> | 8-oz PLASTIC BOTTLE W/ D.I. WATER | |
| <input checked="" type="checkbox"/> | SR | <u>5</u> | 1-QUART CUBITAINER w/ D.I. WATER | |
| <input type="checkbox"/> | SR | <u> </u> | 1-GALLON CUBITAINER w/ D.I. WATER | |

FIELD MONITORING /MEASURING EQUIPMENT

- ☐ WH _____ CARPENTERS SQUARE w/ LEVEL
☐ WH _____ STAFF DEPTH GAUGE; _____ RAIN GAUGE
☒ WH I pH METER
☒ SR 42 pH BUFFERS 4.00 = 143678 ; 7.00 = 143994 ; 10.00 = 141957 ; 141 = 410124
☐ WH _____ PH METER w/ RECORDER
☒ WH I DISSOLVED OXYGEN METER
☐ WH _____ PIGMY/PRICE PROPELLER METER w/ WADING ROD and ASSOCIATED EQUIPMENT
☐ WH _____ FLUOROMETER w/ DYE: _____ FLOW THROUGH, _____ STANDARD
☐ WH _____ TAG LINE; SECCHI DISK

MISCELLANEOUS EQUIPMENT

- [X] WH 1 MONOFILAMENT TAPE ROLLS
[X] WH 1 roll 1 2" CLEAR TAPE FOR CONTAINER LABELS (from LAB supply room)
[X] WH 4 PAPER TOWELS
[X] WH 4 PLASTIC BAGS (ICE CHEST LINERS)
[X] WH 4 ICE CHESTS: 3 SHIPPING; 1 ADDITIONAL
[X] WH 3 sets DOCUMENT ENCLOSURES *w/ labels*
[X] WH 3 CUSTODY SEALS
[X] WH 1 MANHOLE COVER PULLER
[X] WH 1 ROPES
[] WH TAPE MEASURE
[X] WH Bag ZIP LOCK BAGS
[] WH FENCE POSTS and DRIVER

* ANNOTATIONS

WH => DODGE WAREHOUSE (PHONE 281-0366)

SR => STAGING ROOM

PS => PRESERVATIVE/ACID STORAGE ROOM

PERSONAL EQUIPMENT LIST:

____ STEEL-TOED SAFETY BOOTS, ____ HARD HAT, ____ SAFETY GLASSES,
 ____ EAR PLUGS, ____ RAIN GEAR, ____ HIP BOOTS/CHEST WADERS,
 ____ SAFETY REFLECTIVE VEST, ____ FLOTATION LIFE VEST, ____ COVERALLS,
 ____ CALCULATOR, ____ CAMERA w/ FILM, ____ DICTAPHONE, ____ FLASHLIGHT,
 ____ CLIPBOARD, ____ PENS/PENCILS, ____ THERMOMETER

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revised 12/21/99

2 of 2

Document Control Check Sheet (SOP No SG070A)

Media:

Activity Number: WPD 131

| Air | RCRA | Water | Other Specify |
|-----|------|-------|---------------|
| | | X | |

Facility/Site Name: Dyno Nobel, Inc.

Facility/Site Location: 11025 Highway D

State:

Louisiana

| IA | KS | MO | NE |
|----|----|----|----|
| | | X | |

63353

The following documents pertaining to this activity are contained in this package:

| Document | | Yes | No | NA |
|--|------------------|---------------------------------|-----|------------------|
| Final Report with attachments | <u>127</u> Pages | (X) | () | () |
| Field Sheets | — Pages | (X) | () | () |
| Chain-of-Custody Records | — Pages | (X) | () | () |
| Field Notes | <u>424</u> Pages | (X) | () | () |
| Analytical Data Sheets | — Pages | (X) | () | () |
| Photographic Negatives | — | () | () | (X) |
| Photographic CD | <u>1</u> CDs | (X) | () | () |
| Photographs (not included with report) | — | () | () | (X) |
| Video Tape | — | () | () | (X) |
| Pre-inspection Packet w/ field notes | — Pages | (X) | () | () |
| Business Cards | <u>2</u> Cards | (X) | () | () |
| Other Documents (list below) | | (X) | () | () |
| <u>DMA's & WET tests</u> | <u>494</u> Pages | <u>SWPPP</u> | | <u>33</u> Pages |
| <u>Internal & Contract lab reports</u> | <u>463</u> Pages | <u>SWPPP Training Logs</u> | | <u>39</u> Pages |
| <u>Lab SOPs</u> | <u>52</u> Pages | <u>SWPPP Inspection Reports</u> | | <u>111</u> Pages |
| <u>SPCC plan</u> | <u>75</u> Pages | <u>Permit Application</u> | | <u>38</u> Pages |
| <u>SPCC Inspection Reports</u> | <u>68</u> Pages | <u>Permit Foot Sheet</u> | | <u>18</u> Pages |
| <u>Certification</u> | | <u>Responses to LOIs</u> | | <u>9</u> Pages |

I, the undersigned, certify that all of the documents pertaining to this activity that were in my possession have been listed above and were included in this package at the time of this statement was signed.

Dino Pratt
Activity Leader's Signature

05/07/2015
Date Signed

| | | | |
|----------------------------|-----------------|------------------------------|----------------|
| <u>MSDS</u> | <u>33</u> Pages | <u>Site Maps</u> | <u>3</u> Pages |
| <u>Emissions Inventory</u> | <u>2</u> Pages | <u>Spill Release Reports</u> | <u>4</u> Pages |
| <u>Equipment List</u> | <u>2</u> Pages | <u>Shipping Documents</u> | <u>5</u> Pages |

Inspection Planning Checklist

Site Information

Site Name: _____

Address: _____

Permit No: _____

Permit Dates: Issued: / / Expires: / /

SIC/Outfalls: _____

Site Contact: _____

State Contact: _____

EPA Contact: _____

30-90 Days in Advance

____ Contact State Person
____ Obtain current permit
____ Obtain recent state inspection
____ Reserve vehicle _____
____ Phone Number: _____
____ DMR-QA Report
____ PCS Data
____ Toxic Releases Inventory
Activity No.: _____

____ Request ASR: # _____

Delivery Dates: _____

Prior to Inspection

| | |
|---|--|
| ____ Make Hotel reservations | ____ GPS Unit |
| ____ Hotel: _____ | ____ Blank Water |
| ____ Complete Travel Request (TR) | ____ Preservatives |
| ____ Provide Greg a list of supplies | ____ Field sheets/tags |
| ____ Complete Comp. time request (Hrs: _____) | ____ PPE |
| ____ Gather forms for inspections | ____ Federal Express bills and information |
| ____ 3560-3 Multi-media SBRA Security | |
| ____ Gather opening conference information | |
| ____ Security Confidentiality | |

After Inspection

| | |
|---|-----------------------------------|
| ____ Complete Travel Expense Sheet (w/i 5 days) | |
| ____ Complete ICDS (w/i 5 days) | |
| ____ Compensatory Time Claimed: | Hours: _____ |
| ____ Equipment Cleaned: | Date: _____ |
| ____ Provide Vonna with Inspection Date | Inspection Completion Date: _____ |
| ____ Report drafted | |
| ____ Receive sample data from laboratory | Date: _____ |
| ____ Receive GPS data | Date: _____ |
| ____ Complete report | Date: _____ |